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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Kazutoshi WATANABE et al. **Mail Stop PCT**

Appl. No. : Not Yet Assigned (National Phase of PCT/JP2004/004320)

I.A. Filed : March 26, 2004

For : 2,3,6-TRISUBSTITUTED-4-PYRIMIDONE DERIVATIVES

CLAIM OF PRIORITY

Commissioner for Patents
U.S. Patent and Trademark Office
Customer Service Window, Mail Stop PCT
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Sir:

Applicant hereby claims the right of priority granted pursuant to 35 U.S.C. 119 and 365 based upon Japanese Application Nos. 2003-126021, filed March 26, 2003 and 2003-126022, filed March 26, 2003. The International Bureau already should have sent certified copies of the Japanese applications to the United Stated designated office. If the certified copies have not arrived, please contact the undersigned.

Respectfully submitted,
Kazutoshi WATANABE et al.

Bruce H. Bernstein
Reg. No. 29,027

Leslie J. Paperner
Reg. No. 33,329

September 21, 2005
GREENBLUM & BERNSTEIN, P.L.C.
1950 Roland Clarke Place
Reston, VA 20191
(703) 716-1191

日本国特許庁
JAPAN PATENT OFFICE

26.3.2004

別紙添付の書類に記載されている事項は下記の出願書類に記載されている事項と同一であることを証明する。

This is to certify that the annexed is a true copy of the following application as filed with this Office.

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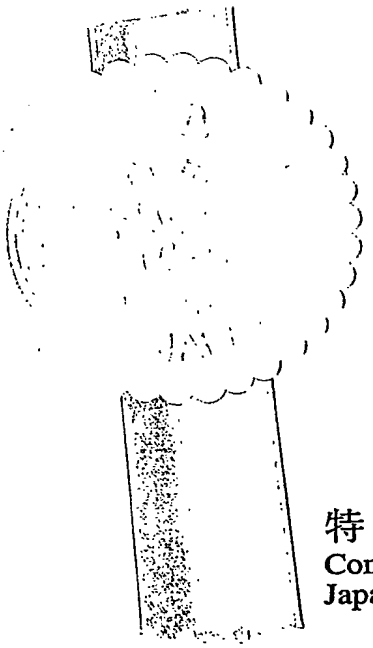
出願人
Applicant(s): 三菱ウェルファーマ株式会社
サノフィーサンテラボ



２００４年　４月３０日

特許庁長官
Commissioner,
Japan Patent Office

今井康夫

出証番号　出証特２００４－３０３７３５１

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【あて先】　特許庁長官殿
【発明者】
【住所又は居所】　東京都中央区日本橋本町２丁目２番６号　三菱ウェルファーマ株式会社東京本社内
【氏名】　渡邉　和俊
【発明者】
【住所又は居所】　東京都中央区日本橋本町２丁目２番６号　三菱ウェルファーマ株式会社東京本社内
【氏名】　上原　史朗
【発明者】
【住所又は居所】　東京都中央区日本橋本町２丁目２番６号　三菱ウェルファーマ株式会社東京本社内
【氏名】　比企　紳介
【発明者】
【住所又は居所】　東京都中央区日本橋本町２丁目２番６号　三菱ウェルファーマ株式会社東京本社内
【氏名】　横島　聡
【発明者】
【住所又は居所】　東京都中央区日本橋本町２丁目２番６号　三菱ウェルファーマ株式会社東京本社内
【氏名】　臼井　義浩
【発明者】
【住所又は居所】　東京都中央区日本橋本町２丁目２番６号　三菱ウェルファーマ株式会社東京本社内
【氏名】　奥山　昌弘

【発明者】
【住所又は居所】　東京都中央区日本橋本町２丁目２番６号　三菱ウェルファーマ株式会社東京本社内
【氏名】　照田　文
【発明者】
【住所又は居所】　東京都中央区日本橋本町２丁目２番６号　三菱ウェルファーマ株式会社東京本社内
【氏名】　有友　啓一
【特許出願人】
【識別番号】　000006725
【氏名又は名称】　三菱ウェルファーマ株式会社
【特許出願人】
【識別番号】　399050909
【氏名又は名称】　サノフィーサンテラボ
【代理人】
【識別番号】　110000109
【氏名又は名称】　特許業務法人特許事務所サイクス
【代表者】　今村　正純
【手数料の表示】
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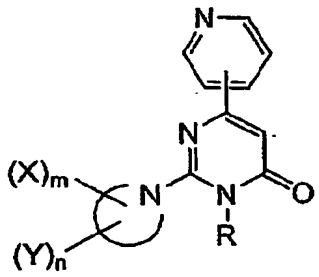
【書類名】　外国語明細書

1. TITLE OF INVENTION

3-SUBSTITUTED-4-PYRIMIDONE DERIVATIVES

2. CLAIMS

1. A pyrimidone derivative represented by formula (I) or a salt thereof, or a solvate thereof or a hydrate thereof:



(I)

wherein R represents a C_1-C_{12} alkyl group which may be substituted;

the ring of:

represents piperazine ring or piperidine ring;

each X independently represents a C_1-C_8 alkyl group which may be substituted, an optionally partially hydrogenated C_6-C_{10} aryl ring which may be substituted, an indan ring which may be substituted, an optionally substituted heterocyclic ring having 1 to 4 hetero atoms selected from the group consisting of oxygen atom, sulfur atom, and nitrogen atom, and having 5 to 10 ring-constituting atoms in total, a phenylamino group which may be substituted, or X^1-CO- wherein X^1 represents a C_6-C_{10} aryl ring which may be substituted or a C_1-C_8 alkyl group which may be substituted;

m represents an integer of 1 to 3;

each Y independently represents a halogen atom, a hydroxy group, a cyano group, a C_1-C_8 alkyl group which may be substituted, Y^1-CO- wherein Y^1 represents a C_6-C_{10} aryl ring which may be substituted or a C_1-C_8 alkyl group which may be substituted or Y^2-O-CO- wherein Y^2 represents a C_1-C_8 alkyl group which may be substituted;

n represents an integer of 0 to 8;

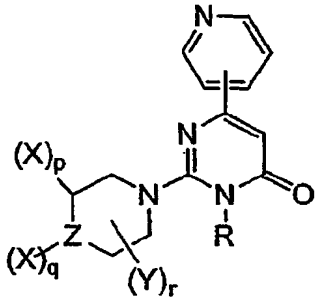
when X and Y or two Y groups are attached on the same carbon atom, they may combine to each other to form a C_2-C_6 alkylene group;

and when m is 1, n is 0, and X is X^1-CO-,

(1) X does not bind to 3-position of unsubstituted 1-piperazinyl group or does not bind to 3-position of a 4-alkyl-1-piperazinyl group; or

(2) X does not bind to 3-position or 4-position of non-substituted 1-piperidinyl group.

2. The pyrimidone derivative or the salt thereof, or the solvate thereof or the hydrate thereof according to claim 1 having the following formula(II)



(II)

wherein R, X and Y are the same as those defined in claim 1;

p is 0 or 1; q is 0 or 1; r is an integer of 0 to 6; p+q is 1 or 2;

and Z represents N or CZ^1 wherein Z^1 represents hydrogen atom or Y.

3. The pyrimidone derivative or the salt thereof, or the solvate thereof or the hydrate thereof according to claim 2, wherein R is a C_1-C_8 alkyl group which may be substituted by a C_3-C_8 cycloalkyl group.

4. The pyrimidone derivative or the salt thereof, or the solvate thereof or the hydrate thereof according to claim 3, wherein R is methyl group or ethyl group; Y is in 3-, 4- or 5-position of the piperazine ring or the piperidine ring; p+q is 1; and r is an integer of 0 to 3.

5. The pyrimidone derivative or the salt thereof, or the solvate thereof or the hydrate thereof according to claim 4, wherein X is a C_1-C_8 alkyl group which may be substituted or a C_6-C_{10} aryl ring which may be substituted; Y is a C_1-C_6 alkyl group which may be substituted; p is 1; q is 0; r is an integer of 0 to 3; and Z is N or

CH.

6. The pyrimidone derivative or the salt thereof, or the solvate thereof or the hydrate thereof according to claim 5, wherein X is a benzene ring which may be substituted, a benzyl group which may be substituted; Y is a methyl group which may be substituted; Z is N and r is 0 or 1.

7. The pyrimidone derivative or the salt thereof, or the solvate thereof or the hydrate thereof according to claim 4, wherein X is a benzene ring which may be substituted, a benzyl group which may be substituted, a benzoyl group which may be substituted, or a benzisothiazol ring which may be substituted; Y is a methyl group which may be substituted; Z is N and p is 0.

8. The pyrimidone derivative or the salt thereof, or the solvate thereof or the hydrate thereof according to claim 4, wherein X is a C_1-C_8 alkyl group substituted by a benzene ring which may be substituted or a benzene ring which may be substituted; Y is a hydroxy group, a cyano group, or Y^1-CO- wherein Y^1 is a C_1-C_8 alkyl group; Z is CH or C-Y and r is 0 or 1.

9. The pyrimidone derivative or the salt thereof, or the solvate thereof or the hydrate thereof according to claim 8, wherein X is a benzyl group which may be substituted or a benzene ring which may be substituted; Y is a hydroxy group, a cyano group, or an acetyl group; Z is CH or C-Y and r is 0 or 1.

10. A pyrimidone derivative which is selected from the group consisting of:
2-(3-Phenylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-Fluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(3-Fluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(2-Fluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-Chlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
(*S*)-2-(3-(4-Chlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
(*R*)-2-(3-(4-Chlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(3-Chlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(2-Chlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-Bromophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Bromophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(2-Bromophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-Methylphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(3-Methylphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(2-Methylphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-Cyanophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(3-Cyanophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(2-Cyanophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-Methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(3-Methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(2-Methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(2-Ethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(5-Fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-Fluoro-3-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-Fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
(*S*)-2-(3-(4-Fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
(*R*)-2-(3-(4-Fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-Chloro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-Fluoro-2-methylphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(2-Fluoro-6-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(5-Bromo-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(2-Bromo-4-fluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(2-Chloro-6-fluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,4-Difluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,6-Difluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,6-Dichlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,4-Dimethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(3,4-Dimethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,5-Dimethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,6-Dimethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,4-Difluoro-6-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;(1034)

2-(3-(5-Cyano-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Cyano-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(1-Naphthyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Naphthyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,3-Dihydrobenzofuran-7-yl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(Benzofuran-2-yl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

(*S*)-2-(3-(Benzofuran-2-yl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(Pyrrolidin-1-yl-methyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(Pyrrolidin-1-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-methoxy-4-(pyrrolidin-1-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-methoxy-5-(pyrrolidin-1-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-

3*H*-pyrimidin-4-one;
2-(3-(4-(Phenyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-(4-Fluorophenyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-(4-Methoxyphenyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-(2-Methoxyphenyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-(Morpholin-4-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-(4-Methylpiperazin-1-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(4-Phenylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(4-Benzylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(4-Benzoylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(4-(1,2-Benzisothiazol-3-yl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(4-Methyl-3-phenylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-Fluoro-2-methoxyphenyl)-4-methylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
(*S*)-2-(3-(4-Fluoro-2-methoxyphenyl)-4-methylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
(*R*)-2-(3-(4-Fluoro-2-methoxyphenyl)-4-methylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(4-Acetyl-3-(4-fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(4-Benzyl-3-(4-fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(4-Benzyl-3-(ethoxycarbonyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(4-methyl-3-(1-naphthyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(5,5-Dimethyl-3-(2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-Phenylpiperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-Fluorophenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(3-Fluorophenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(2-Fluorophenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-Chlorophenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-Bromophenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-Methoxyphenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(3-Methoxyphenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(2-Methoxyphenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-((Pyrrolidin-1-yl)methyl)phenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
(*S*)-2-(3-(4-(Pyrrolidin-1-yl-methyl)phenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
(*R*)-2-(3-(4-(Pyrrolidin-1-yl-methyl)phenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one; and
2-(3-Hydroxy-3-phenylpiperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one,
or a salt thereof, or a solvate thereof or a hydrate thereof.

11. A medicament comprising as an active ingredient a substance selected from the group consisting of the pyrimidone derivative represented by formula (I) and a salt thereof, and a solvate thereof and a hydrate thereof according to claim 1.

12. A tau protein kinase 1 inhibitor selected from the group consisting of the pyrimidone derivative represented by formula (I) and a salt thereof, and a solvate thereof and a hydrate thereof according to claim 1.

13. The medicament according to claim 11 which is used for preventive and/or therapeutic treatment of a disease caused by tau protein kinase 1 hyperactivity.

14. The medicament according to claim 11 which is used for preventive and/or therapeutic treatment of a neurodegenerative disease.

15. The medicament according to claim 14, wherein the neurodegenerative disease is selected from the group consisting of Alzheimer disease, ischemic cerebrovascular accidents, Down syndrome, cerebral bleeding due to cerebral amyloid angiopathy, progressive supranuclear palsy, subacute sclerosing panencephalitic parkinsonism, postencephalitic parkinsonism, pugilistic

encephalitis, Guam parkinsonism-dementia complex, Lewy body disease, Pick's disease, corticobasal degeneration, frontotemporal dementia, vascular dementia, traumatic injuries, brain and spinal cord trauma, peripheral neuropathies, retinopathies, and glaucoma.

16. The medicament according to claim 11, wherein the disease is selected from the group consisting of non-insulin dependent diabetes, obesity, manic depressive illness, schizophrenia, alopecia, breast cancer, non-small cell lung carcinoma, thyroid cancer, T or B-cell leukemia, and a virus-induced tumor.

3. DETAILED DESCRIPTION OF INVENTION

Technical Field

The present invention relates to compounds that are useful as an active ingredient of a medicament for preventive and/or therapeutic treatment of diseases mainly caused by abnormal activity of tau protein kinase 1, such as neurodegenerative diseases (e.g. Alzheimer disease).

Background Art

Alzheimer disease is progressive senile dementia, in which marked cerebral cortical atrophy is observed due to degeneration of nerve cells and decrease of nerve cell number. Pathologically, numerous senile plaques and neurofibrillary tangles are observed in brain. The number of patients has been increased with the increment of aged population, and the disease arises a serious social problem. Although various theories have been proposed, a cause of the disease has not yet been elucidated. Early resolution of the cause has been desired.

It has been known that the degree of appearance of two characteristic pathological changes of Alzheimer disease well correlates to the degree of intellectual dysfunction. Therefore, researches have been conducted from early 1980's to reveal the cause of the disease through molecular level investigations of components of the two pathological changes. Senile plaques accumulate extracellularly, and β amyloid protein has been elucidated as their main component (abbreviated as "A β" hereinafter in the specification: Biochem. Biophys. Res. Commun., 120, 855 (1984); EMBO J., 4, 2757 (1985); Proc. Natl. Acad. Sci. USA,

82, 4245 (1985)). In the other pathological change, i.e., the neurofibrillary tangles, a double-helical filamentous substance called paired helical filament (abbreviated as "PHF" hereinafter in the specification) accumulate intracellularly, and tau protein, which is a kind of microtubule-associated protein specific for brain, has been revealed as its main component (Proc. Natl. Acad. Sci. USA, 85, 4506 (1988); Neuron, 1, 827 (1988)).

Furthermore, on the basis of genetic investigations, presenilins 1 and 2 were found as causative genes of familial Alzheimer disease (Nature, 375, 754 (1995); Science, 269, 973 (1995); Nature. 376, 775 (1995)), and it has been revealed that presence of mutants of presenilins 1 and 2 promotes the secretion of A β (Neuron, 17, 1005 (1996); Proc. Natl. Acad. Sci. USA, 94, 2025 (1997)). From these results, it is considered that, in Alzheimer disease, A β abnormally accumulates and agglomerates due to a certain reason, which engages with the formation of PHF to cause death of nerve cells. It is also expected that extracellular outflow of glutamic acid and activation of glutamate receptor responding to the outflow may possibly be important factors in an early process of the nerve cell death caused by ischemic cerebrovascular accidents (Sai-shin Igaku [Latest Medicine], 49, 1506 (1994)).

It has been reported that kainic acid treatment that stimulates the AMPA receptor, one of glutamate receptor, increases mRNA of the amyloid precursor protein (abbreviated as "APP" hereinafter in the specification) as a precursor of A β (Society for Neuroscience Abstracts, 17, 1445 (1991)), and also promotes metabolism of APP (The Journal of Neuroscience, 10, 2400 (1990)). Therefore, it has been strongly suggested that the accumulation of A β is involved in cellular death due to ischemic cerebrovascular disorders. Other diseases in which abnormal accumulation and agglomeration of A β are observed include, for example, Down syndrome, cerebral bleeding due to solitary cerebral amyloid angiopathy, Lewy body disease (Shin-kei Shinpo [Nerve Advance], 34, 343 (1990); Tanpaku-shitu Kaku-san Koso [Protein, Nucleic Acid, Enzyme], 41, 1476 (1996)) and the like. Furthermore, as diseases showing neurofibrillary tangles due to the PHF accumulation, examples include progressive supranuclear palsy, subacute sclerosing panencephalitic parkinsonism, postencephalitic parkinsonism, pugilistic encephalitis, Guam

parkinsonism-dementia complex, Lewy body disease and the like (Tanpakushitu Kakusan Koso [Protein, Nucleic Acid, Enzyme], 36, 2 (1991); Igaku no Ayumi [Progress of Medicine], 158, 511 (1991); Tanpakushitu Kakusan Koso [Protein, Nucleic Acid, Enzyme], 41, 1476 (1996)).

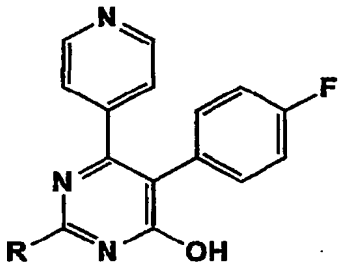
The tau protein is generally composed of a group of related proteins that forms several bands at molecular weights of 48-65 kDa in SDS-polyacrylamide gel electrophoresis, and it promotes the formation of microtubules. It has been verified that tau protein incorporated in the PHF in the brain suffering from Alzheimer disease is abnormally phosphorylated compared with usual tau protein (J. Biochem., 99, 1807 (1986); Proc. Natl. Acad. Sci. USA, 83, 4913 (1986)). An enzyme catalyzing the abnormal phosphorylation has been isolated. The protein was named as tau protein kinase 1 (abbreviated as "TPK1" hereinafter in the specification), and its physicochemical properties have been elucidated (Seikagaku [Biochemistry], 64, 308 (1992); J. Biol. Chem., 267, 10897 (1992)). Moreover, cDNA of rat TPK1 was cloned from a rat cerebral cortex cDNA library based on a partial amino acid sequence of TPK1, and its nucleotide sequence was determined and an amino acid sequence was deduced (Japanese Patent Un-examined Publication [Kokai] No. 6-239893/1994). As a result, it has been revealed that the primary structure of the rat TPK1 corresponds to that of the enzyme known as rat GSK-3 β (glycogen synthase kinase 3 β, FEBS Lett., 325, 167 (1993)).

It has been reported that A β, the main component of senile plaques, is neurotoxic (Science, 250, 279 (1990)). However, various theories have been proposed as for the reason why A β causes the cell death, and any authentic theory has not yet been established. Takashima et al. observed that the cell death was caused by A β treatment of fetal rat hippocampus primary culture system, and then found that the TPK1 activity was increased by A β treatment and the cell death by A β was inhibited by antisense of TPK1 (Proc. Natl. Acad. Sci. USA, 90, 7789 (1993); Japanese Patent Un-examined Publication [Kokai] No. 6-329551/1994).

In view of the foregoing, compounds which inhibit the TPK1 activity may possibly suppress the neurotoxicity of A β and the formation of PHF and inhibit the nerve cell death in the Alzheimer disease, thereby cease or defer the progress of the disease. The compounds may also be possibly used as a medicament for therapeutic

treatment of ischemic cerebrovascular disorder, Down syndrome, cerebral amyloid angiopathy, cerebral bleeding due to Lewy body disease and the like by suppressing the cytotoxicity of Aβ. Furthermore, the compounds may possibly be used as a medicament for therapeutic treatment of neurodegenerative diseases such as progressive supranuclear palsy, subacute sclerosing panencephalitic parkinsonism, postencephalitic parkinsonism, pugilistic encephalitis, Guam parkinsonism-dementia complex, Lewy body disease, Pick's disease, corticobasal degeneration, frontotemporal dementia, vascular dementia, acute stroke and traumatic injuries, brain and spinal cord trauma, peripheral neuropathies, retinopathies and glaucoma; non-insulin dependent diabetes (such as diabetes type II), and obesity, manic depressive illness, schizophrenia, alopecia, cancers such as breast cancer, non-small cell lung carcinoma, thyroid cancer, T or B-cell leukemia and several virus-induced tumors.

As structurally similar compounds to the compounds of the present invention represented by formula (I) described later, compounds represented by the following formula (A) are known:



(A)

wherein R represents 2,6-dichlorobenzyl group, 2-(2-chlorophenyl)ethylamino group, 3-phenylpropylamino group, or 1-methyl-3-phenylpropylamino group (WO98/24782). The compounds represented by formula (A) are characterized to have 4-fluorophenyl group at the 5-position of the pyrimidine ring and a hydroxy group at the 4-position, and not falling within the scope of the present invention. Moreover, main pharmacological activity of the compounds represented by formula (A) is anti-inflammatory effect, whereas the compounds of the present invention represented by formula (I) are useful as a TPK1 inhibitor or a medicament for

therapeutic treatment of neurodegenerative diseases, and therefore, their pharmacological activities are totally different to each other.

Patent Document 1: WO 00/18758

Patent Document 2: WO 01/70728

Patent Document 3: WO 01/70729

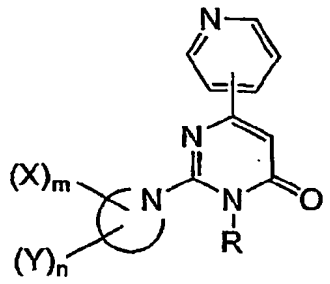
Object to be Achieved by the Invention

An object of the present invention is to provide compounds useful as an active ingredient of a medicament for preventive and/or therapeutic treatment of diseases such as Alzheimer disease. More specifically, the object is to provide novel compounds useful as an active ingredient of a medicament that enables radical prevention and/or treatment of the neurodegenerative diseases such as Alzheimer disease by inhibiting the TPK1 activity to suppress the neurotoxicity of A β and the formation of the PHF and by inhibiting the death of nerve cells.

Means to Achieve the Object

In order to achieve the foregoing object, the inventors of the present invention conducted screenings of various compounds having inhibitory activity against the phosphorylation of TPK1. As a result, they found that compounds represented by the following formula (I) had the desired activity and were useful as an active ingredient of a medicament for preventive and/or therapeutic treatment of the aforementioned diseases. The present invention was achieved on the basis of these findings.

The present invention thus provides 3-substituted-4-pyrimidone derivatives represented by formula (I) or salts thereof, or solvates thereof or hydrates thereof:



(I)

wherein R represents a C_1-C_{12} alkyl group which may be substituted;
the ring of:

represents piperazine ring or piperidine ring;
each X independently represents a C_1-C_8 alkyl group which may be substituted, an optionally partially hydrogenated C_6-C_{10} aryl ring which may be substituted, an indan ring which may be substituted, an optionally substituted heterocyclic ring having 1 to 4 hetero atoms selected from the group consisting of oxygen atom, sulfur atom, and nitrogen atom, and having 5 to 10 ring-constituting atoms in total, a phenylamino group which may be substituted or X^1-CO- wherein X^1 represents a C_6-C_{10} aryl ring which may be substituted or a C_1-C_8 alkyl group which may be substituted;
m represents an integer of 1 to 3;
each Y independently represents a halogen atom, a hydroxy group, a cyano group, a C_1-C_6 alkyl group which may be substituted, Y^1-CO- wherein Y^1 represents a C_6-C_{10} aryl ring which may be substituted or a C_1-C_8 alkyl group which may be substituted or Y^2-O-CO- wherein Y^2 represents a C_1-C_8 alkyl group which may be substituted;
n represents an integer of 0 to 8;
when X and Y or two Y groups are attached on the same carbon atom, they may combine to each other to form a C_2-C_8 alkylene group;
and when m is 1, n is 0, and X is X^1-CO-,

(1) X does not bind to 3-position of unsubstituted 1-piperazinyl group or does not bind to 3-position of a 4-alkyl-1-piperazinyl group; or
(2) X does not bind to 3-position or 4-position of non-substituted 1-piperidinyl group.

According to another aspect of the present invention, there is provided a medicament comprising as an active ingredient a substance selected from the group consisting of the 3-substituted-4-pyrimidone derivatives represented by formula (I) and the physiologically acceptable salts thereof, and the solvates thereof and the hydrates thereof. As preferred embodiments of the medicament, there are provided the aforementioned medicament which is used for preventive and/or therapeutic treatment of diseases caused by tau protein kinase 1 hyperactivity, and the aforementioned medicament which is used for preventive and/or therapeutic treatment of neurodegenerative diseases.

As further preferred embodiments of the present invention, there are provided the aforementioned medicament wherein the diseases are selected from the group consisting of Alzheimer disease, ischemic cerebrovascular accidents, Down syndrome, cerebral bleeding due to cerebral amyloid angiopathy, progressive supranuclear palsy, subacute sclerosing panencephalitic parkinsonism, postencephalitic parkinsonism, pugilistic encephalitis, Guam parkinsonism-dementia complex, Lewy body disease, Pick's disease, corticobasal degeneration and frontotemporal dementia, vascular dementia, acute stroke and traumatic injuries, brain and spinal cord trauma, peripheral neuropathies, retinopathies and glaucoma, non-insulin dependent diabetes (such as diabetes type II), and obesity, manic depressive illness, schizophrenia, alopecia, cancers such as breast cancer, non-small cell lung carcinoma, thyroid cancer, T or B-cell leukemia and several virus-induced tumors; and the aforementioned medicament in the form of pharmaceutical composition containing the above substance as an active ingredient together with one or more pharmaceutical additives.

The present invention further provides an inhibitor of tau protein kinase 1 comprising as an active ingredient a substance selected from the group consisting of the 3-substituted-4-pyrimidone derivatives of formula (I) and the salts thereof, and the solvates thereof and the hydrates thereof.

According to further aspects of the present invention, there are provided a method for preventive and/or therapeutic treatment of diseases caused by tau protein kinase 1 hyperactivity, which comprises the step of administering to a

patient a preventively and/or therapeutically effective amount of a substance selected from the group consisting of the 3-substituted-4-pyrimidone derivatives of formula (I) and the physiologically acceptable salts thereof, and the solvates thereof and the hydrates thereof; and a use of a substance selected from the group consisting of the 3-substituted-4-pyrimidone derivatives of formula (I) and the physiologically acceptable salts thereof, and the solvates thereof and the hydrates thereof for the manufacture of the aforementioned medicament.

Mode for Carrying Out the Invention

The alkyl group used herein may be either linear or branched.

The C_1-C_{12} alkyl group represented by R may be, for example, methyl group, ethyl group, n-propyl group, isopropyl group, n-butyl group, isobutyl group, sec-butyl group, tert-butyl group, n-pentyl group, isopentyl group, neopentyl group, 1,1-dimethylpropyl group, n-hexyl group, isohexyl group, or a linear or branched heptyl group, octyl group, nonyl group, decyl group, undecyl group or dodecyl group. Particularly preferred R is methyl group.

In the specification, when a functional group is defined as "which may be substituted" or "optionally substituted", the number of substituents as well as their types and substituting positions are not particularly limited, and when two or more substituents are present, they may be the same or different.

When the C_1-C_{12} alkyl group represented by R has one or more substituents, the alkyl group may have one or more substituents selected from, for example, the groups consisting of a C_3-C_8 cycloalkyl group such as cyclopropyl group, cyclobutyl group, cyclopentyl group, cyclohexyl group, cycloheptyl group, cyclooctyl group; a C_1-C_5 alkoxy group such as methoxy group, ethoxy group, propoxy group, isopropoxy group, butoxy group, isobutoxy group, tert-butoxy group; C_1-C_3 alkylamino group or C_2-C_6 dialkylamino group; a C_6-C_{10} aryl group such as phenyl group, 1-naphthyl group, and 2-naphthyl group.

The C_1-C_8 alkyl group represented by X may be, for example, methyl group, ethyl group, n-propyl group, isopropyl group, n-butyl group, isobutyl group, sec-butyl group, tert-butyl group, n-pentyl group, isopentyl group, neopentyl group, 1,1-dimethylpropyl group, n-hexyl group, isohexyl group, or a linear or branched

heptyl group or octyl group.

The optionally partially hydrogenated C_6-C_{10} aryl ring represented by X may be, for example a benzene ring, a naphthalene ring, an indan ring or a 1,2,3,4-tetrahydronaphthalene ring.

The heterocyclic ring having 1 to 4 hetero atoms selected from the group consisting of oxygen atom, sulfur atom, and nitrogen atom, and having 5 to 10 ring-constituting atoms in total represented by X may be, for example, furan ring, dihydrofuran ring, tetrahydrofuran ring, pyran ring, dihydropyran ring, tetrahydropyran ring, benzofuran ring, dihydrobenzofuran, isobenzofuran ring, benzodioxol ring, chromene ring, chroman ring, isochroman ring, thiophene ring, benzothiophene ring, pyrrole ring, pyrroline ring, pyrrolidine ring, imidazole ring, imidazoline ring, imidazolidine ring, pyrazole ring, pyrazoline ring, pyrazolidine ring, triazole ring, tetrazole ring, pyridine ring, pyridine oxide ring, piperidine ring, pyrazine ring, piperazine ring, pyrimidine ring, pyridazine ring, indole ring, indoline ring, isoindole ring, isoindoline ring, indazole ring, benzimidazole ring, benzotriazole ring, tetrahydroisoquinoline ring, benzothiazolinone ring, benzoxazolinone ring, purine ring, quinolizine ring, quinoline ring, phthalazine ring, naphthyridine ring, quinoxaline ring, quinazoline ring, cinnoline ring, pteridine ring, oxazole ring, oxazolidine ring, isoxazole ring, isoxazolidine ring, oxadiazole ring, thiazole ring, benzothiazole ring, thiazylidine ring, isothiazole ring, isothiazolidine ring, benzodioxole ring, dioxane ring, benzodioxane ring, dithian ring, morpholine ring, thiomorpholine ring, or phthalimide ring.

The C_6-C_{10} aryl ring represented by X^1 or Y^1 may be, for example, a benzene ring or a naphthalene ring.

When the ring represented by X or X^1 has one or more substituents, the ring may have one or more substituents selected form the group consisting of a C_1-C_5 alkyl group such as methyl group, ethyl group, propyl group, isopropyl group, butyl group, isobutyl group, sec-butyl group, tert-butyl group, pentyl group, isopentyl group, neopentyl group, 1,1-dimethylpropyl group; C_3-C_6 cycloalkyl group such as cyclopropyl group, cyclobutyl group, cyclopentyl group, cyclohexyl group; a C_3-C_6 cycloalkyloxy group such as cyclopropyloxy group, cyclobutyloxy group, cyclopentyloxy group, cyclohexyloxy group; a C_1-C_6 alkoxy group such as methoxy

group, ethoxy group, propoxy group, isopropoxy group, butoxy group, isobutoxy group, tert-butoxy group, pentyloxy group, and isopentyloxy group; a C_4-C_7 cycloalkylalkoxyl group such as cyclopropylmethoxy group, cyclopentylmethoxy group; a C_1-C_5 alkylthio group such as methylthio group, ethylthio group, propylthio group, butylthio group, and pentylthio group; a C_1-C_5 alkylsulfonyl group such as methanesulfonyl group, ethanesulfonyl group, propanesulfonyl group, butanesulfonyl group, and pentanesulfonyl group; a halogen atom such as fluorine atom, chlorine atom, bromine atom, and iodine atom; a C_1-C_5 halogenated alkyl group such as trifluoromethyl group; hydroxyl group; cyano group; nitro group; formyl group; a C_2-C_6 alkylcarbonyl group such as acetyl group, propionyl group, butyryl group, and valeryl group; a benzene ring which may be substituted, a naphthalene ring which may be substituted, an optionally substituted heterocyclic ring having 1 to 4 hetero atoms selected from the group consisting of oxygen atom, sulfur atom and nitrogen atom, and having 5 to 10 ring-constituting atoms in total; a phenoxy group which may be substituted; a phenylamino group which may be substituted; an amino group; a C_1-C_5 monoalkylamino group such as methylamino group, ethylamino group, propylamino group, isopropylamino group, butylamino group, isobutylamino group, tert-butylamino group, pentylamino group, and isopentylamino group; a C_2-C_{10} dialkylamino group such as dimethylamino group, ethylmethylamino group, diethylamino group, methylpropylamino group, and diisopropylamino group; a C_1-C_5 monoalkylaminomethyl group such as methylaminomethyl group, ethylaminomethyl group, propylaminomethyl group, isoproylaminomethyl group, butylaminomethyl group, isobutylaminomethyl group, tert-butylaminomethyl group, pentylaminomethyl group, isopentylaminomethyl; a C_2-C_{10} dialkylaminomethyl group such as dimethylaminomethyl group, diethylaminomethyl group, ethylmethylaminomethyl group, methylpropylaminomethyl group; pyrrolidinylmethyl group; piperidinylmethyl group; morpholinomethyl group; piperazinylmethyl group; pyrrolylmethyl group; imidazolylmethyl group; pyrazolylmethyl group; and triazolylmethyl group.

When the C_6-C_{10} aryl ring represented by Y^1 has one or more substituents, the ring may be substituted by one or more substituents selected from the groups consisting of halogen atoms, a C_1-C_5 alkyl group, a C_3-C_6 cycloalkyl group, a C_3-C_6

cycloalkyloxy group, a C_1-C_5 alkoxy group, a C_4-C_7 cycloalkylalkoxy, a C_1-C_5 alkylthio group, a C_1-C_5 alkylsulfonyl group, a C_1-C_5 halogenated alkyl, and a benzene ring.

When the ring represented by X, X^1 or Y^1 has one or more substituents, the substituent may further have one or more substituents selected from the group consisting of a C_1-C_5 alkyl group such as methyl group, ethyl group, propyl group, isopropyl group, butyl group, isobutyl group, sec-butyl group, tert-butyl group, pentyl group, isopentyl group, neopentyl group, 1,1-dimethylpropyl group; C_3-C_6 cycloalkyl group such as cyclopropyl group, cyclobutyl group, cyclopentyl group, cyclohexyl group; a C_3-C_6 cycloalkyloxy group such as cyclopropyloxy group, cyclobutyloxy group, cyclopentyloxy group, cyclohexyloxy group; hydroxy group; a C_1-C_5 alkoxy group such as methoxy group, ethoxy group, propoxy group, isopropoxy group, butoxy group, isobutoxy group, tert-butoxy group, pentyloxy group, and isopentyloxy group; a C_4-C_7 cycloalkylalkoxy group such as cyclopropylmethoxy group, cyclopentylmethoxy group; a C_1-C_5 alkylthio group such as methylthio group, ethylthio group, propylthio group, butylthio group, and pentylthio group; a C_1-C_5 alkylsulfonyl group such as methanesulfonyl group, ethanesulfonyl group, propanesulfonyl group, butanesulfonyl group, and pentanesulfonyl group; a halogen atom such as fluorine atom, chlorine atom, bromine atom, and iodine atom; a C_1-C_5 halogenated alkyl group such as trifluoromethyl group; a C_1-C_5 halogenated alkoxy group such as trifluoromethoxy group, 2,2,2-trifluoroethoxy group; hydroxyl group; cyano group; nitro group; formyl group; a C_2-C_6 alkylcarbonyl group such as acetyl group, propionyl group, butyryl group, and valeryl group; amino group; a C_1-C_5 monoalkylamino group such as methylamino group, ethylamino group, propylamino group, isopropylamino group, butylamino group, isobutylamino group, tert-butylamino group, pentylamino group, and isopentylamino group; a C_2-C_{10} dialkylamino group such as dimethylamino group, ethylmethylamino group, diethylamino group, methylpropylamino group, and diisopropylamino group; a C_2-C_{10} monoalkylaminomethyl group such as methylaminomethyl group, ethylaminomethyl group, propylaminomethyl group, isoproylaminomethyl group, butylaminomethyl group, isobutylaminomethyl group, tert-butylaminomethyl group, pentylaminomethyl group, isopentylaminomethyl; a C_3-C_{11}

dialkylaminomethyl group such as dimethylaminomethyl group, diethylaminomethyl group, ethylmethylaminomethyl group, methylpropylaminomethyl group and the like.

R may preferably be a C_1-C_8 alkyl group, more preferably a methyl group or an ethyl group. The substituent of the alkyl group may preferably be a C_3-C_8 alkyl group.

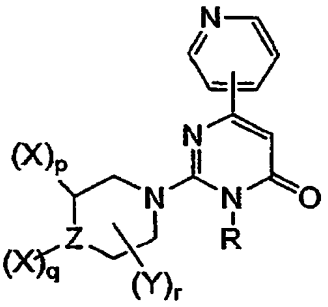
X may preferably be a benzene ring which may be substituted, a benzyl group which may be substituted, a naphthyl group which may be substituted, a benzofuran ring which may be substituted, a dihydrobenzofuran ring which may be substituted, a benzoxazole ring which may be substituted, a benzisoxazole ring which may be substituted, a benzothiazole ring which may be substituted, a benzisothiazole ring which may be substituted, and a benzopyrazole ring which may be substituted; more preferably a benzene ring which may be substituted, a benzyl group which may be substituted. Substituent of X may preferably be selected from the group consisting of a halogen atom, a C_1-C_4 alkyl group, a C_1-C_4 alkoxy group, a hydroxy group, a nitro group, a cyano group, a perhalogenated C_1-C_4 alkyl group, a carboxyl group, a C_1-C_4 alkoxycarbonyl group, a C_1-C_4 alkylthio group, a C_1-C_4 alkoxysulfonyl group, and amino group which may be substituted by a C_1-C_4 alkyl group.

The compounds represented by the aforementioned formula (I) may form a salt. Examples of the salt include, when an acidic group exists, salts of alkali metals and alkaline earth metals such as lithium, sodium, potassium, magnesium, and calcium; salts of ammonia and amines such as methylamine, dimethylamine, trimethylamine, dicyclohexylamine, tris(hydroxymethyl)aminomethane, N,N-bis(hydroxyethyl)piperazine, 2-amino-2-methyl-1-propanol, ethanolamine, N-methylglucamine, and L-glucamine; or salts with basic amino acids such as lysine, δ-hydroxylysine, and arginine. When a basic group exists, examples include salts with mineral acids such as hydrochloric acid, hydrobromic acid, sulfuric acid, nitric acid, phosphoric acid; salts with organic acids such as methanesulfonic acid, benzenesulfonic acid, p-toluenesulfonic acid, acetic acid, propionic acid, tartaric acid, fumaric acid, maleic acid, malic acid, oxalic acid, succinic acid, citric acid, benzoic acid, mandelic acid, cinnamic acid, lactic acid,

glycolic acid, glucuronic acid, ascorbic acid, nicotinic acid, and salicylic acid; or salts with acidic amino acids such as aspartic acid, and glutamic acid.

In addition to the 3-substituted-4-pyrimidone derivatives represented by the aforementioned formula (I) and salts thereof, their solvates and hydrates also fall within the scope of the present invention. The 3-substituted-4-pyrimidone derivatives represented by the aforementioned formula (I) may have one or more asymmetric carbon atoms. As for the stereochemistry of such asymmetric carbon atoms, they may independently be in either (R) and (S) configuration, and the pyrimidone derivative may exist as stereoisomers such as optical isomers, or diastereoisomers. Any stereoisomers in a pure form, any mixtures of stereoisomers, racemates and the like fall within the scope of the present invention.

Preferred compounds of the present invention are represented by formula (II):



(II)

wherein R, X, Y are the same as those defined above; p is 0 or 1; q is 0 or 1; r is an integer of 0 to 6; p+q is 1 or 2;

and Z represents N or CZ^1 wherein Z^1 represents hydrogen atom or Y.

Examples of more preferred classes of compounds represented by formula (II) include:

(1) those wherein R represents a C_1-C_3 alkyl group which may be substituted by a C_3-C_8 cycloalkyl group;

(2) the compounds of the above (1) wherein R is methyl group or ethyl group; Y is in 3-, 4- or 5-position of the piperazine ring or the piperidine ring; p+q is 1; and r is an integer of 0 to 3;

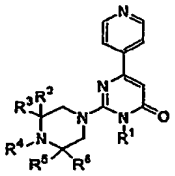
(3) the compounds of the above (2) wherein X is a C_1-C_8 alkyl group which may be substituted or a C_6-C_{10} aryl ring which may be substituted; Y is a C_1-C_6 alkyl group which may be substituted; p is 1; q is 0; r is an integer of 0 to 3; and Z is N or CH;

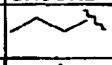
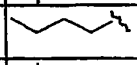
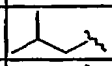
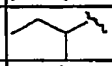
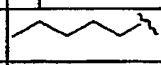
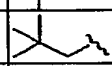
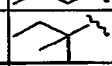
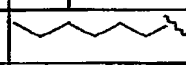
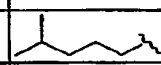
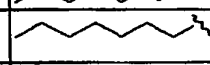
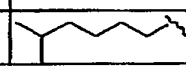
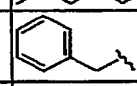
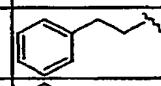
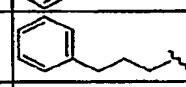
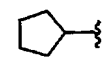
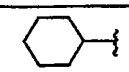
(4) the compounds of the above (3) wherein X is a benzene ring which may be substituted, a benzyl group which may be substituted; Y is a methyl group which may be substituted; Z is N and r is 0 or 1;
(5) the compounds of the above (2) wherein X is a benzene ring which may be substituted, a benzyl group which may be substituted, a benzoyl group which may be substituted, or a benzisothiazol ring which may be substituted; Y is a methyl group which may be substituted; Z is N and p is 0;
(6) the compounds of the above (2) wherein X is a C_1-C_8 alkyl group substituted by a benzene ring which may be substituted or a benzene ring which may be substituted; Y is a hydroxy group, a cyano group, or Y^1-CO- wherein Y^1 is a C_1-C_8 alkyl group; Z is CH or C-Y and r is 0 or 1; and
(7) the compounds of the above (6) wherein X is a benzyl group which may be substituted or a benzene ring which may be substituted; Y is a hydroxy group, a cyano group, or an acetyl group; Z is CH or C-Y and r is 0 or 1.

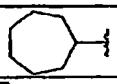
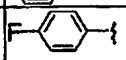
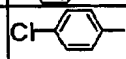
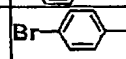
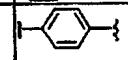
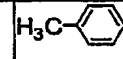
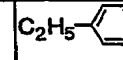
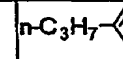
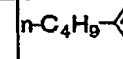
Examples of particularly preferred classes of compounds represented by formula (II) include:
(1) those wherein R is methyl group, Y is CH_3O-CO- group or CH_3CH_2O-CO- group, Z is N, p is 0, q is 1, r is 0 or 1 and Y is in 3-position of the piperazine ring;
(2) those wherein R is methyl group, Y is methyl group, benzyl group or acetyl group, Z is N, p is 1, q is 0, r is 0 or 1 and Y is in 4-position of the piperazine ring;
(3) those wherein R is methyl group, Y is methyl group, Z is N, p is 1, q is 0, r is 1 to 3 and Y is in 3-, 4-, or 5-position of the piperazine ring;
(4) those wherein R is methyl group, Y is hydroxyl group or cyano group, Z is CH, p is 1, q is 0, r is 0 or 1 and X and Y are attached on the same carbon atom;
(5) those wherein R is methyl group, Y is hydroxyl group, cyano group or acetyl group, Z is C-Y, p is 0, q is 1 and r is 1.

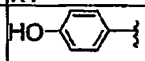
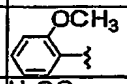
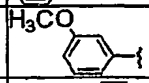
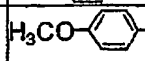
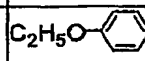
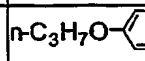
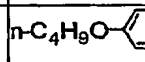
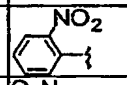
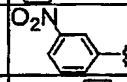
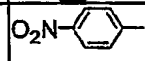
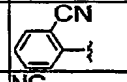
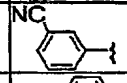
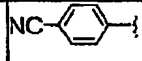
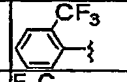
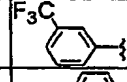
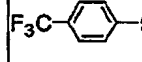
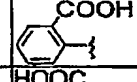
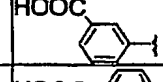
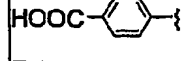
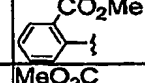
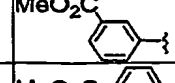
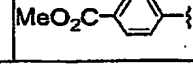
Examples of preferred compounds of the present invention are shown in the tables below. However, the scope of the present invention is not limited to the following compounds.

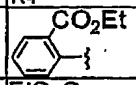
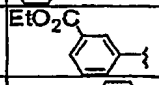
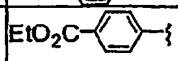
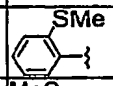
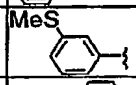
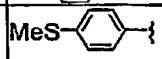
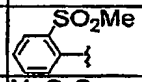
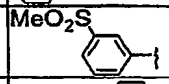
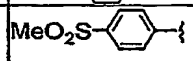
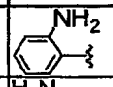
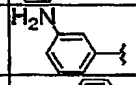
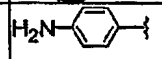
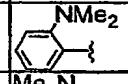
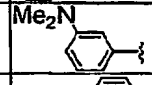
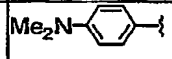
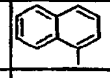
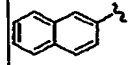
Table-1

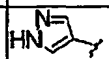
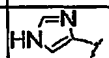
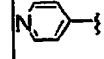


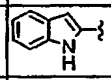
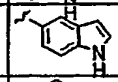
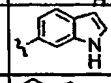
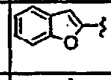
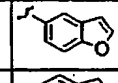
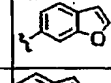
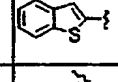
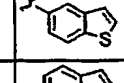
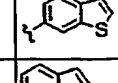
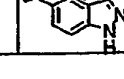
No.	R1	R2	R3	R4	R5	R6
A1	CH3-	H	H	CH3-	H	H
A2	CH3-	H	H	CH3CH2-	H	H
A3	CH3-	H	H		H	H
A4	CH3-	H	H		H	H
A5	CH3-	H	H		H	H
A6	CH3-	H	H		H	H
A7	CH3-	H	H		H	H
A8	CH3-	H	H		H	H
A9	CH3-	H	H		H	H
A10	CH3-	H	H		H	H
A11	CH3-	H	H		H	H
A12	CH3-	H	H		H	H
A13	CH3-	H	H		H	H
A14	CH3-	H	H		H	H
A15	CH3-	H	H		H	H
A16	CH3-	H	H		H	H
A17	CH3-	H	H	n-C8H17-	H	H
A18	CH3-	H	H		H	H
A19	CH3-	H	H		H	H
A20	CH3-	H	H		H	H
A21	CH3-	H	H		H	H
A22	CH3-	H	H		H	H
A23	CH3-	H	H		H	H
A24	CH3-	H	H		H	H
A25	CH3-	H	H		H	H

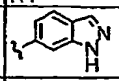
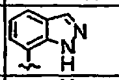
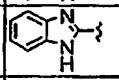
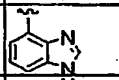
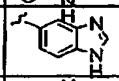
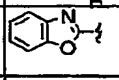
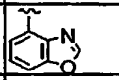
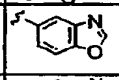
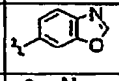
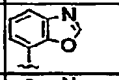
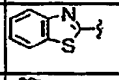
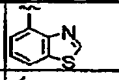
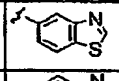
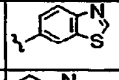
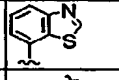
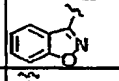
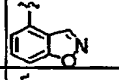
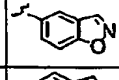
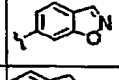
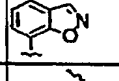
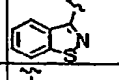
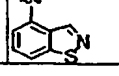
No.	R1	R2	R3	R4	R5	R6
A26	CH3-	H	H		H	H
A27	CH3-	H	H		H	H
A28	CH3-	H	H		H	H
A29	CH3-	H	H		H	H
A30	CH3-	H	H		H	H
A31	CH3-	H	H		H	H
A32	CH3-	H	H		H	H
A33	CH3-	H	H		H	H
A34	CH3-	H	H		H	H
A35	CH3-	H	H		H	H
A36	CH3-	H	H		H	H
A37	CH3-	H	H		H	H
A38	CH3-	H	H		H	H
A39	CH3-	H	H		H	H
A40	CH3-	H	H		H	H
A41	CH3-	H	H		H	H
A42	CH3-	H	H		H	H
A43	CH3-	H	H		H	H
A44	CH3-	H	H		H	H
A45	CH3-	H	H		H	H
A46	CH3-	H	H		H	H
A47	CH3-	H	H		H	H

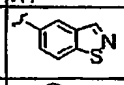
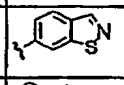
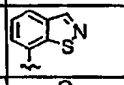
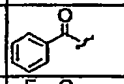
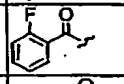
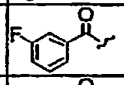
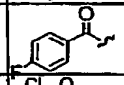
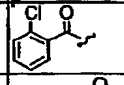
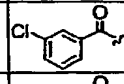
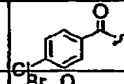
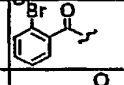
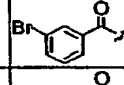
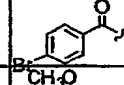
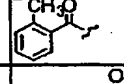
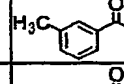
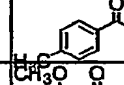
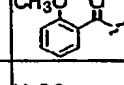
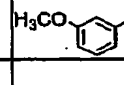
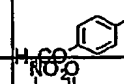
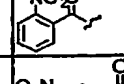
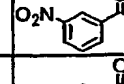
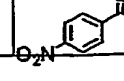
No.	R1	R2	R3	R4	R5	R6
A48	CH3–	H	H		H	H
A49	CH3–	H	H		H	H
A50	CH3–	H	H		H	H
A51	CH3–	H	H		H	H
A52	CH3–	H	H		H	H
A53	CH3–	H	H		H	H
A54	CH3–	H	H		H	H
A55	CH3–	H	H		H	H
A56	CH3–	H	H		H	H
A57	CH3–	H	H		H	H
A58	CH3–	H	H		H	H
A59	CH3–	H	H		H	H
A60	CH3–	H	H		H	H
A61	CH3–	H	H		H	H
A62	CH3–	H	H		H	H
A63	CH3–	H	H		H	H
A64	CH3–	H	H		H	H
A65	CH3–	H	H		H	H
A66	CH3–	H	H		H	H
A67	CH3–	H	H		H	H
A68	CH3–	H	H		H	H
A69	CH3–	H	H		H	H

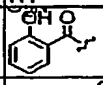
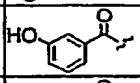
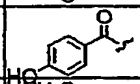
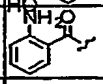
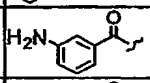
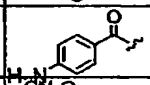
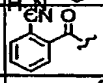
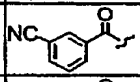
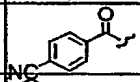
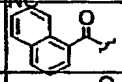
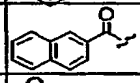
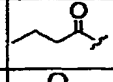
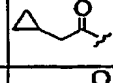
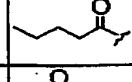
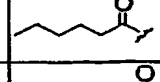
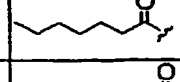
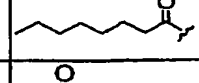
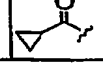
No.	R1	R2	R3	R4	R5	R6
A70	CH3-	H	H		H	H
A71	CH3-	H	H		H	H
A72	CH3-	H	H		H	H
A73	CH3-	H	H		H	H
A74	CH3-	H	H		H	H
A75	CH3-	H	H		H	H
A76	CH3-	H	H		H	H
A77	CH3-	H	H		H	H
A78	CH3-	H	H		H	H
A79	CH3-	H	H		H	H
A80	CH3-	H	H		H	H
A81	CH3-	H	H		H	H
A82	CH3-	H	H		H	H
A83	CH3-	H	H		H	H
A84	CH3-	H	H		H	H
A85	CH3-	H	H		H	H
A86	CH3-	H	H		H	H
A87	CH3-	H	H		H	H
A88	CH3-	H	H		H	H
A89	CH3-	H	H		H	H
A90	CH3-	H	H		H	H
A91	CH3-	H	H		H	H

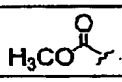
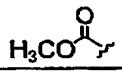
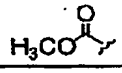
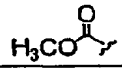
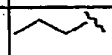
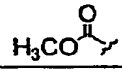
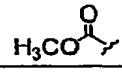
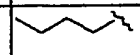
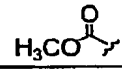
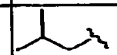
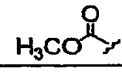
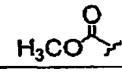
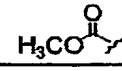
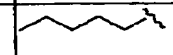
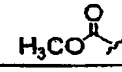
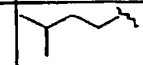
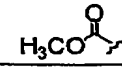
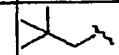
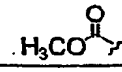
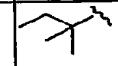
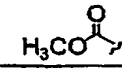
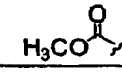
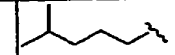
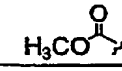
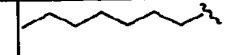
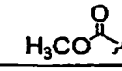
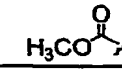
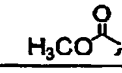
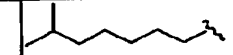
No.	R1	R2	R3	R4	R5	R6
A92	CH3-	H	H		H	H
A93	CH3-	H	H		H	H
A94	CH3-	H	H		H	H
A95	CH3-	H	H		H	H
A96	CH3-	H	H		H	H
A97	CH3-	H	H		H	H
A98	CH3-	H	H		H	H
A99	CH3-	H	H		H	H
A100	CH3-	H	H		H	H
A101	CH3-	H	H		H	H
A102	CH3-	H	H		H	H
A103	CH3-	H	H		H	H
A104	CH3-	H	H		H	H
A105	CH3-	H	H		H	H
A106	CH3-	H	H		H	H
A107	CH3-	H	H		H	H
A108	CH3-	H	H		H	H
A109	CH3-	H	H		H	H
A110	CH3-	H	H		H	H
A111	CH3-	H	H		H	H
A112	CH3-	H	H		H	H
A113	CH3-	H	H		H	H

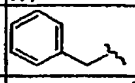
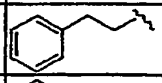
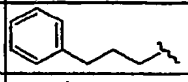
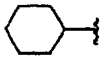
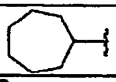
No.	R1	R2	R3	R4	R5	R6
A114	CH3-	H	H		H	H
A115	CH3-	H	H		H	H
A116	CH3-	H	H		H	H
A117	CH3-	H	H		H	H
A118	CH3-	H	H		H	H
A119	CH3-	H	H		H	H
A120	CH3-	H	H		H	H
A121	CH3-	H	H		H	H
A122	CH3-	H	H		H	H
A123	CH3-	H	H		H	H
A124	CH3-	H	H		H	H
A125	CH3-	H	H		H	H
A126	CH3-	H	H		H	H
A127	CH3-	H	H		H	H
A128	CH3-	H	H		H	H
A129	CH3-	H	H		H	H
A130	CH3-	H	H		H	H
A131	CH3-	H	H		H	H
A132	CH3-	H	H		H	H
A133	CH3-	H	H		H	H
A134	CH3-	H	H		H	H
A135	CH3-	H	H		H	H

No.	R1	R2	R3	R4	R5	R6
A136	CH3-	H	H		H	H
A137	CH3-	H	H		H	H
A138	CH3-	H	H		H	H
A139	CH3-	H	H		H	H
A140	CH3-	H	H		H	H
A141	CH3-	H	H		H	H
A142	CH3-	H	H		H	H
A143	CH3-	H	H		H	H
A144	CH3-	H	H		H	H
A145	CH3-	H	H		H	H
A146	CH3-	H	H		H	H
A147	CH3-	H	H		H	H
A148	CH3-	H	H		H	H
A149	CH3-	H	H		H	H
A150	CH3-	H	H		H	H
A151	CH3-	H	H		H	H
A152	CH3-	H	H		H	H
A153	CH3-	H	H		H	H
A154	CH3-	H	H		H	H
A155	CH3-	H	H		H	H
A156	CH3-	H	H		H	H
A157	CH3-	H	H		H	H

No.	R1	R2	R3	R4	R5	R6
A158	CH3-	H	H		H	H
A159	CH3-	H	H		H	H
A160	CH3-	H	H		H	H
A161	CH3-	H	H		H	H
A162	CH3-	H	H		H	H
A163	CH3-	H	H		H	H
A164	CH3-	H	H		H	H
A165	CH3-	H	H		H	H
A166	CH3-	H	H		H	H
A167	CH3-	H	H		H	H
A168	CH3-	H	H		H	H
A169	CH3-	H	H		H	H
A170	CH3-	H	H		H	H
A171	CH3-	H	H		H	H
A172	CH3-	H	H		H	H
A173	CH3-	H	H		H	H
A174	CH3-	H	H		H	H
A175	CH3-	H	H		H	H
A176	CH3-	H	H		H	H
A177	CH3-	H	H		H	H
A178	CH3-	H	H		H	H
A179	CH3-	H	H		H	H

No.	R1	R2	R3	R4	R5	R6
A180	CH3-	H	H		H	H
A181	CH3-	H	H		H	H
A182	CH3-	H	H		H	H
A183	CH3-	H	H		H	H
A184	CH3-	H	H		H	H
A185	CH3-	H	H		H	H
A186	CH3-	H	H		H	H
A187	CH3-	H	H		H	H
A188	CH3-	H	H		H	H
A189	CH3-	H	H		H	H
A190	CH3-	H	H		H	H
A191	CH3-	H	H		H	H
A192	CH3-	H	H		H	H
A193	CH3-	H	H		H	H
A194	CH3-	H	H		H	H
A195	CH3-	H	H		H	H
A196	CH3-	H	H		H	H
A197	CH3-	H	H		H	H
A198	CH3-	H	H		H	H
A199	CH3-	H	H		H	H
A200	CH3-	H	H		H	H
A201	CH3-	H	H		H	H

No.	R1	R2	R3	R4	R5	R6
A202	CH3-	H	H		H	H
A203	CH3-	H	H		H	H
A204	CH3-	H	H		H	H
A205	CH3-		H	H	H	H
A206	CH3-		H	CH3-	H	H
A207	CH3-		H	CH3CH2-	H	H
A208	CH3-		H		H	H
A209	CH3-		H		H	H
A210	CH3-		H		H	H
A211	CH3-		H		H	H
A212	CH3-		H		H	H
A213	CH3-		H		H	H
A214	CH3-		H		H	H
A215	CH3-		H		H	H
A216	CH3-		H		H	H
A217	CH3-		H		H	H
A218	CH3-		H		H	H
A219	CH3-		H		H	H
A220	CH3-		H		H	H
A221	CH3-		H		H	H
A222	CH3-		H	n-C8H17-	H	H
A223	CH3-		H		H	H

No.	R1	R2	R3	R4	R5	R6
A224	CH3-	H_3CO	H		H	H
A225	CH3-	H_3CO	H		H	H
A226	CH3-	H_3CO	H		H	H
A227	CH3-	H_3CO	H		H	H
A228	CH3-	H_3CO	H		H	H
A229	CH3-	H_3CO	H		H	H
A230	CH3-	H_3CO	H		H	H
A231	CH3-	H_3CO	H		H	H
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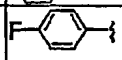
A233	CH3-	H_3CO	H		H	H
A234	CH3-	H_3CO	H		H	H
A235	CH3-	H_3CO	H		H	H
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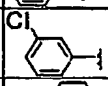
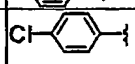
A237	CH3-	H_3CO	H		H	H
A238	CH3-	H_3CO	H		H	H
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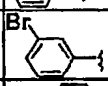
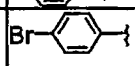
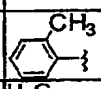
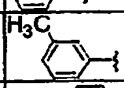
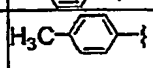
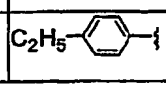
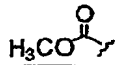
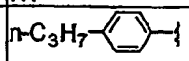
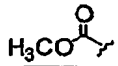
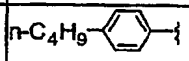
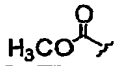
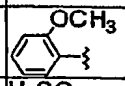
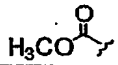
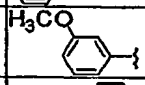
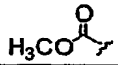
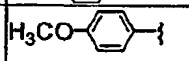
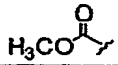
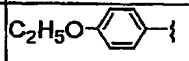
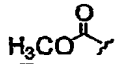
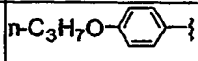
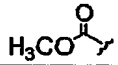
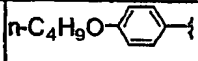
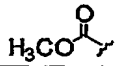
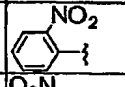
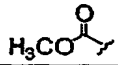
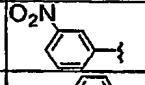
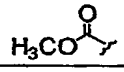
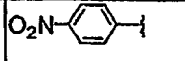
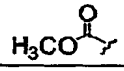
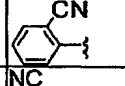
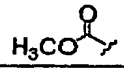
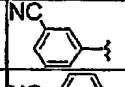
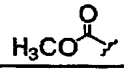
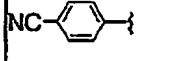
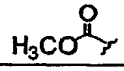
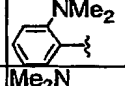
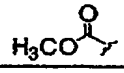
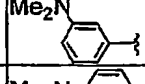
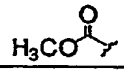
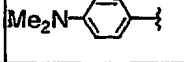
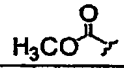
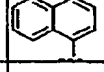
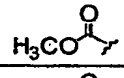
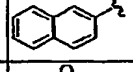
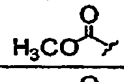
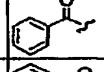
A240	CH3-	H_3CO	H		H	H
A241	CH3-	H_3CO	H		H	H
A242	CH3-	H_3CO	H		H	H
A243	CH3-	H_3CO	H		H	H
A244	CH3-	H_3CO	H		H	H
A245	CH3-	H_3CO	H		H	H

No.	R1	R2	R3	R4	R5	R6
A246	CH3-		H		H	H
A247	CH3-		H		H	H
A248	CH3-		H		H	H
A249	CH3-		H		H	H
A250	CH3-		H		H	H
A251	CH3-		H		H	H
A252	CH3-		H		H	H
A253	CH3-		H		H	H
A254	CH3-		H		H	H
A255	CH3-		H		H	H
A256	CH3-		H		H	H
A257	CH3-		H		H	H
A258	CH3-		H		H	H
A259	CH3-		H		H	H
A260	CH3-		H		H	H
A261	CH3-		H		H	H
A262	CH3-		H		H	H
A263	CH3-		H		H	H
A264	CH3-		H		H	H
A265	CH3-		H		H	H
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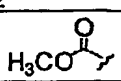
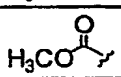
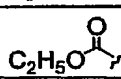
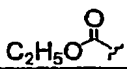
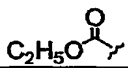
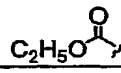
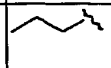
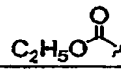
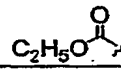
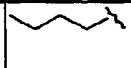
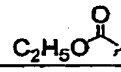
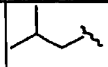
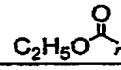
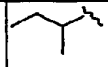
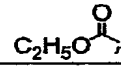
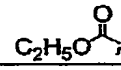
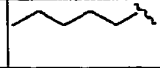
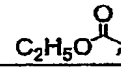
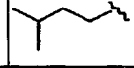
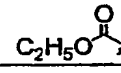
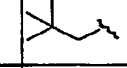
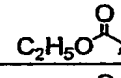
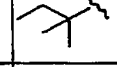
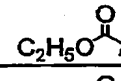
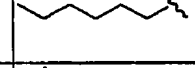
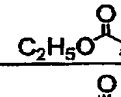
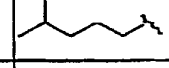
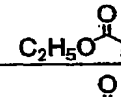
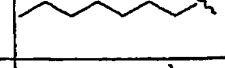
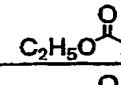
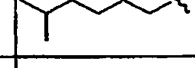
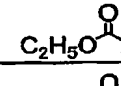
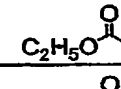
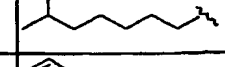
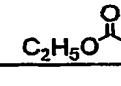
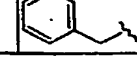
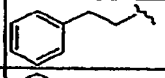
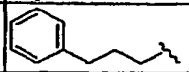
A268	CH3-		H		H	H
A269	CH3-		H		H	H
A270	CH3-		H	H	H	H
A271	CH3-		H	CH3-	H	H
A272	CH3-		H	CH3CH2-	H	H
A273	CH3-		H		H	H
A274	CH3-		H		H	H
A275	CH3-		H		H	H
A276	CH3-		H		H	H
A277	CH3-		H		H	H
A278	CH3-		H		H	H
A279	CH3-		H		H	H
A280	CH3-		H		H	H
A281	CH3-		H		H	H
A282	CH3-		H		H	H
A283	CH3-		H		H	H
A284	CH3-		H		H	H
A285	CH3-		H		H	H
A286	CH3-		H		H	H
A287	CH3-		H	n-C8H17-	H	H
A288	CH3-		H		H	H
A289	CH3-		H		H	H

No.	R1	R2	R3	R4	R5	R6
A290	CH3-		H		H	H
A291	CH3-		H		H	H
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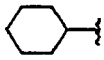
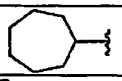
A294	CH3-		H		H	H
A295	CH3-		H		H	H
A296	CH3-		H		H	H
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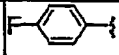
A298	CH3-		H		H	H
A299	CH3-		H		H	H
A300	CH3-		H		H	H
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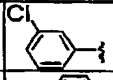
A302	CH3-		H		H	H
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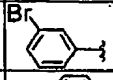
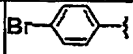
A305	CH3-		H		H	H
A306	CH3-		H		H	H
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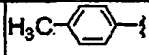
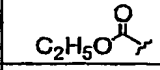
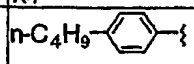
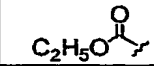
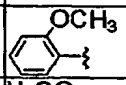
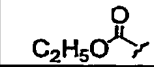
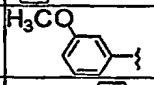
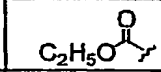
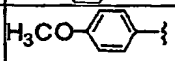
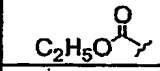
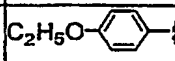
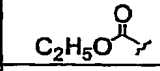
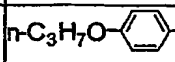
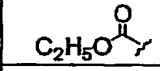
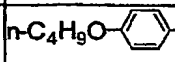
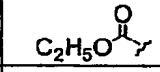
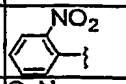
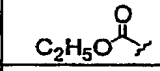
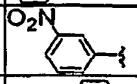
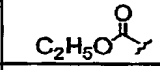
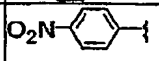
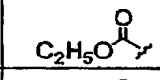
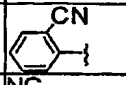
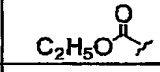
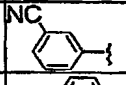
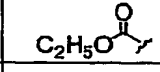
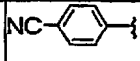
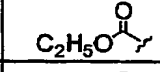
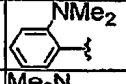
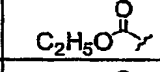
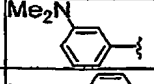
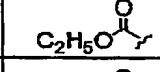
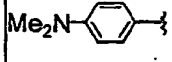
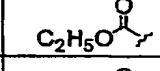
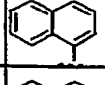
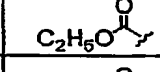
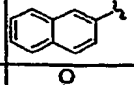
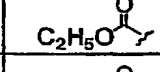
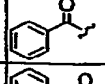
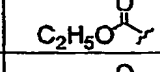
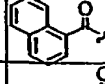
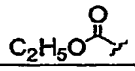
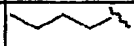
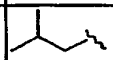
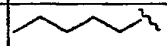
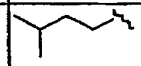
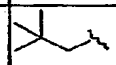
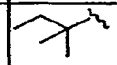
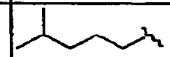
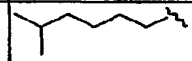
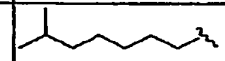
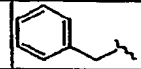
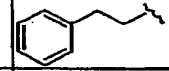
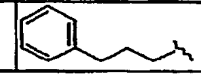
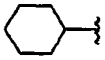
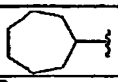
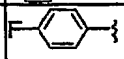
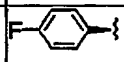
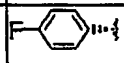
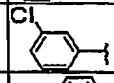
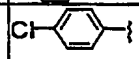
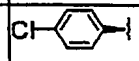
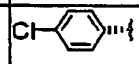
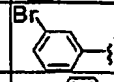
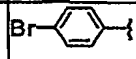
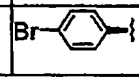
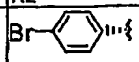
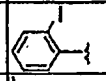
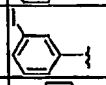
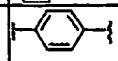
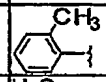
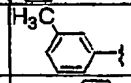
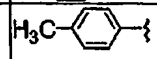
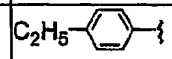
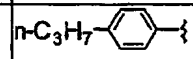
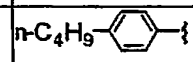
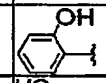
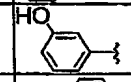
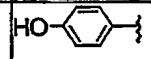
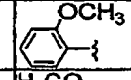
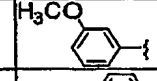
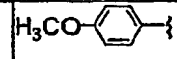
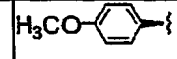
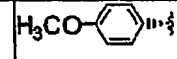
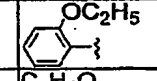
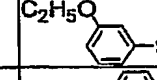
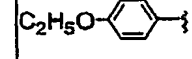
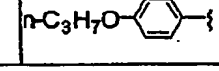
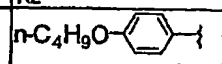
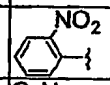
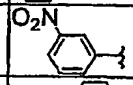
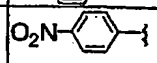
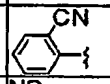
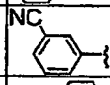
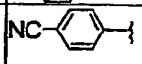
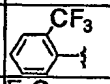
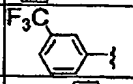
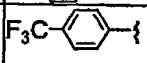
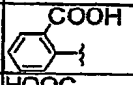
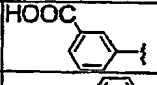
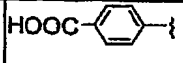
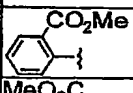
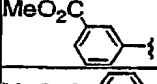
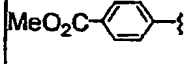
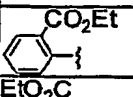
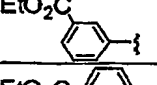
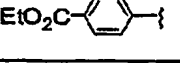
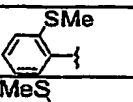
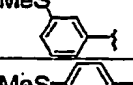
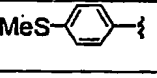
A308	CH3-		H		H	H
A309	CH3-		H		H	H
A310	CH3-		H		H	H
A311	CH3-		H		H	H

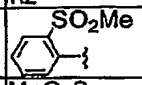
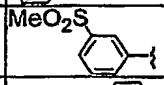
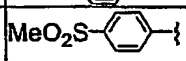
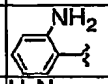
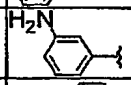
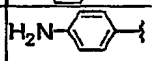
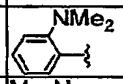
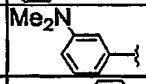
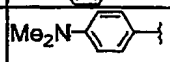
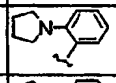
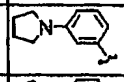
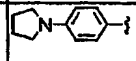
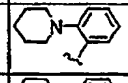
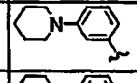
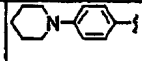
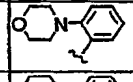
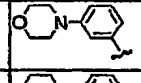
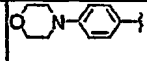
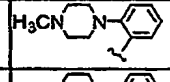
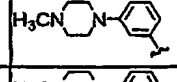
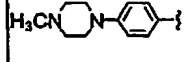
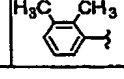
No.	R1	R2	R3	R4	R5	R6
A312	CH3-		H		H	H
A313	CH3-		H		H	H
A314	CH3-		H		H	H
A315	CH3-		H		H	H
A316	CH3-		H		H	H
A317	CH3-		H		H	H
A318	CH3-		H		H	H
A319	CH3-		H		H	H
A320	CH3-		H		H	H
A321	CH3-		H		H	H
A322	CH3-		H		H	H
A323	CH3-		H		H	H
A324	CH3-		H		H	H
A325	CH3-		H		H	H
A326	CH3-		H		H	H
A327	CH3-		H		H	H
A328	CH3-		H		H	H
A329	CH3-		H		H	H
A330	CH3-		H		H	H
A331	CH3-		H		H	H
A332	CH3-		H		H	H
A333	CH3-		H		H	H

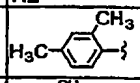
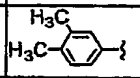
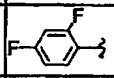
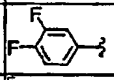
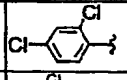
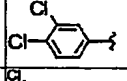
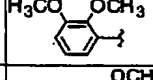
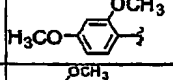
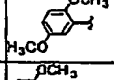
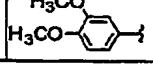
No.	R1	R2	R3	R4	R5	R6
A334	CH3-		H		H	H
A335	CH3-	CH3-	H	H	H	H
A336	CH3-	CH3CH2-	H	H	H	H
A337	CH3-		H	H	H	H
A338	CH3-		H	H	H	H
A339	CH3-		H	H	H	H
A340	CH3-		H	H	H	H
A341	CH3-		H	H	H	H
A342	CH3-		H	H	H	H
A343	CH3-		H	H	H	H
A344	CH3-		H	H	H	H
A345	CH3-		H	H	H	H
A346	CH3-		H	H	H	H
A347	CH3-		H	H	H	H
A348	CH3-		H	H	H	H
A349	CH3-		H	H	H	H
A350	CH3-		H	H	H	H
A351	CH3-	n-C8H17-	H	H	H	H
A352	CH3-		H	H	H	H
A353	CH3-		H	H	H	H
A354	CH3-		H	H	H	H
A355	CH3-		H	H	H	H

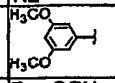
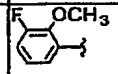
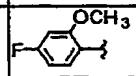
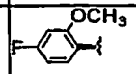
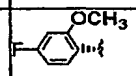
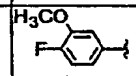
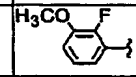
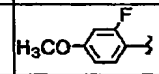
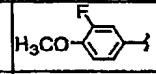
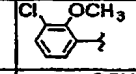
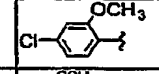
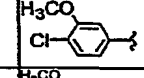
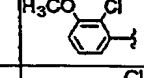
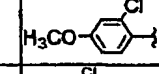
No.	R1	R2	R3	R4	R5	R6
A356	CH3-		H	H	H	H
A357	CH3-		H	H	H	H
A358	CH3-		H	H	H	H
A359	CH3-		H	H	H	H
A360	CH3-		H	H	H	H
A361	CH3-		H	H	H	H
A362	CH3-		H	H	H	H
A363	CH3-		H	H	H	H
A364	CH3-		H	H	H	H
A365	CH3-		H	H	H	H
A366	CH3-		H	H	H	H
A367	CH3-		H	H	H	H
A368	CH3-		H	H	H	H
A369	CH3-		H	H	H	H
A370	CH3-		H	H	H	H
A371	CH3-		H	H	H	H
A372	CH3-		H	H	H	H
A373	CH3-		H	H	H	H
A374	CH3-		H	H	H	H
A375	CH3-		H	H	H	H
A376	CH3-		H	H	H	H
A377	CH3-		H	H	H	H

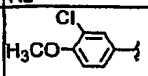
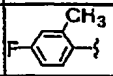
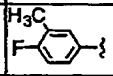
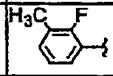
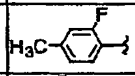
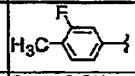
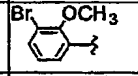
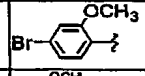
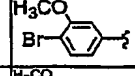
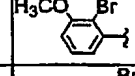
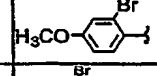
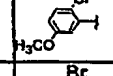
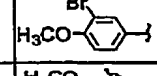
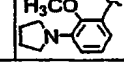
No.	R1	R2	R3	R4	R5	R6
A378	CH3-		H	H	H	H
A379	CH3-		H	H	H	H
A380	CH3-		H	H	H	H
A381	CH3-		H	H	H	H
A382	CH3-		H	H	H	H
A383	CH3-		H	H	H	H
A384	CH3-		H	H	H	H
A385	CH3-		H	H	H	H
A386	CH3-		H	H	H	H
A387	CH3-		H	H	H	H
A388	CH3-		H	H	H	H
A389	CH3-		H	H	H	H
A390	CH3-		H	H	H	H
A391	CH3-		H	H	H	H
A392	CH3-		H	H	H	H
A393	CH3-		H	H	H	H
A394	CH3-		H	H	H	H
A395	CH3-		H	H	H	H
A396	CH3-		H	H	H	H
A397	CH3-		H	H	H	H
A398	CH3-		H	H	H	H
A399	CH3-		H	H	H	H

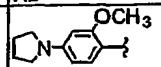
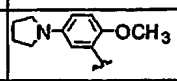
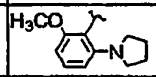
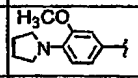
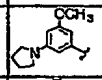
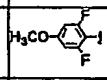
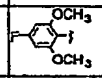
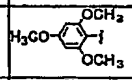
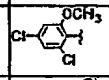
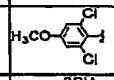
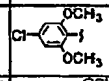
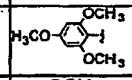
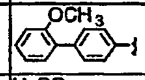
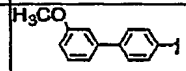
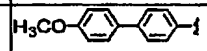
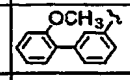
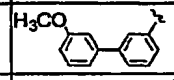
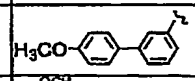
No.	R1	R2	R3	R4	R5	R6
A400	CH3–		H	H	H	H
A401	CH3–		H	H	H	H
A402	CH3–		H	H	H	H
A403	CH3–		H	H	H	H
A404	CH3–		H	H	H	H
A405	CH3–		H	H	H	H
A406	CH3–		H	H	H	H
A407	CH3–		H	H	H	H
A408	CH3–		H	H	H	H
A409	CH3–		H	H	H	H
A410	CH3–		H	H	H	H
A411	CH3–		H	H	H	H
A412	CH3–		H	H	H	H
A413	CH3–		H	H	H	H
A414	CH3–		H	H	H	H
A415	CH3–		H	H	H	H
A416	CH3–		H	H	H	H
A417	CH3–		H	H	H	H
A418	CH3–		H	H	H	H
A419	CH3–		H	H	H	H
A420	CH3–		H	H	H	H
A421	CH3–		H	H	H	H

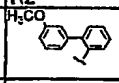
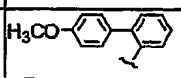
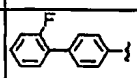
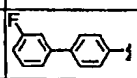
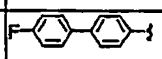
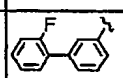
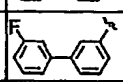
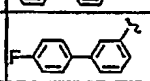
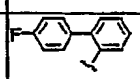
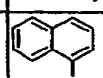
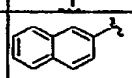
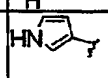
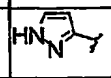
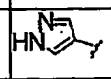
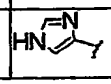
No.	R1	R2	R3	R4	R5	R6
A422	CH3-		H	H	H	H
A423	CH3-		H	H	H	H
A424	CH3-		H	H	H	H
A425	CH3-		H	H	H	H
A426	CH3-		H	H	H	H
A427	CH3-		H	H	H	H
A428	CH3-		H	H	H	H
A429	CH3-		H	H	H	H
A430	CH3-		H	H	H	H
A431	CH3-		H	H	H	H
A432	CH3-		H	H	H	H
A433	CH3-		H	H	H	H
A434	CH3-		H	H	H	H
A435	CH3-		H	H	H	H
A436	CH3-		H	H	H	H
A437	CH3-		H	H	H	H
A438	CH3-		H	H	H	H
A439	CH3-		H	H	H	H
A440	CH3-		H	H	H	H
A441	CH3-		H	H	H	H
A442	CH3-		H	H	H	H
A443	CH3-		H	H	H	H

No.	R1	R2	R3	R4	R5	R6
A444	CH3–		H	H	H	H
A445	CH3–		H	H	H	H
A446	CH3–		H	H	H	H
A447	CH3–		H	H	H	H
A448	CH3–		H	H	H	H
A449	CH3–		H	H	H	H
A450	CH3–		H	H	H	H
A451	CH3–		H	H	H	H
A452	CH3–		H	H	H	H
A453	CH3–		H	H	H	H
A454	CH3–		H	H	H	H
A455	CH3–		H	H	H	H
A456	CH3–		H	H	H	H
A457	CH3–		H	H	H	H
A458	CH3–		H	H	H	H
A459	CH3–		H	H	H	H
A460	CH3–		H	H	H	H
A461	CH3–		H	H	H	H
A462	CH3–		H	H	H	H
A463	CH3–		H	H	H	H
A464	CH3–		H	H	H	H
A465	CH3–		H	H	H	H

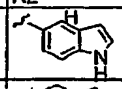
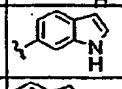
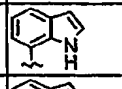
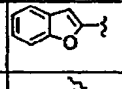
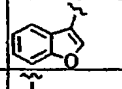
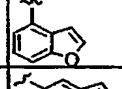
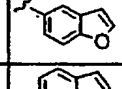
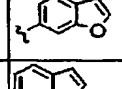
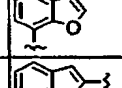
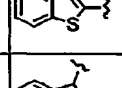
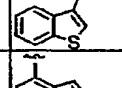
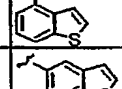
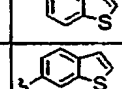
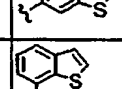
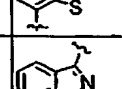
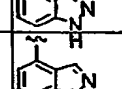
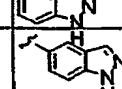
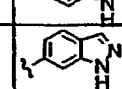
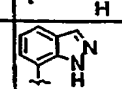
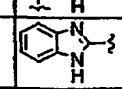
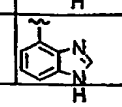
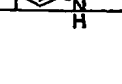
No.	R1	R2	R3	R4	R5	R6
A466	CH3-		H	H	H	H
A467	CH3-		H	H	H	H
A468	CH3-		H	H	H	H
A469	CH3-		H	H	H	H
A470	CH3-		H	H	H	H
A471	CH3-		H	H	H	H
A472	CH3-		H	H	H	H
A473	CH3-		H	H	H	H
A474	CH3-		H	H	H	H
A475	CH3-		H	H	H	H
A476	CH3-		H	H	H	H
A477	CH3-		H	H	H	H
A478	CH3-		H	H	H	H
A479	CH3-		H	H	H	H
A480	CH3-		H	H	H	H
A481	CH3-		H	H	H	H
A482	CH3-		H	H	H	H
A483	CH3-		H	H	H	H
A484	CH3-		H	H	H	H
A485	CH3-		H	H	H	H
A486	CH3-		H	H	H	H
A487	CH3-		H	H	H	H

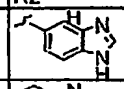
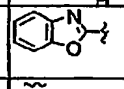
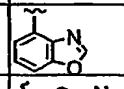
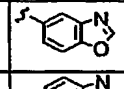
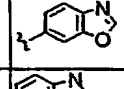
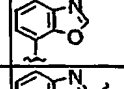
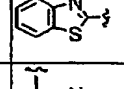
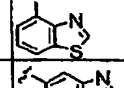
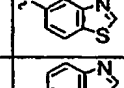
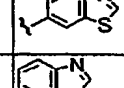
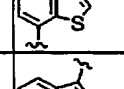
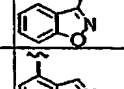
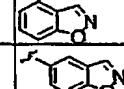
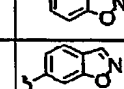
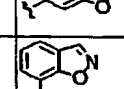
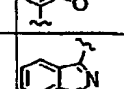
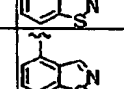
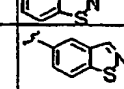
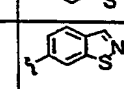
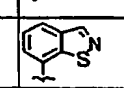
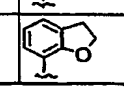
No.	R1	R2	R3	R4	R5	R6
A488	CH3-		H	H	H	H
A489	CH3-		H	H	H	H
A490	CH3-		H	H	H	H
A491	CH3-		H	H	H	H
A492	CH3-		H	H	H	H
A493	CH3-		H	H	H	H
A494	CH3-		H	H	H	H
A495	CH3-		H	H	H	H
A496	CH3-		H	H	H	H
A497	CH3-		H	H	H	H
A498	CH3-		H	H	H	H
A499	CH3-		H	H	H	H
A500	CH3-		H	H	H	H
A501	CH3-		H	H	H	H
A502	CH3-		H	H	H	H
A503	CH3-		H	H	H	H
A504	CH3-		H	H	H	H
A505	CH3-		H	H	H	H
A506	CH3-		H	H	H	H
A507	CH3-		H	H	H	H
A508	CH3-		H	H	H	H
A509	CH3-		H	H	H	H

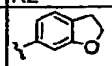
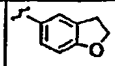
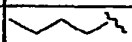
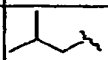
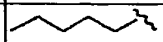
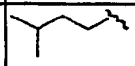
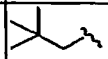
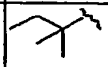
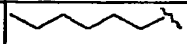
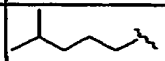
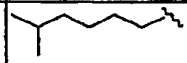
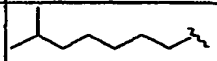
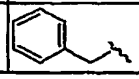
No.	R1	R2	R3	R4	R5	R6
A510	CH3-		H	H	H	H
A511	CH3-		H	H	H	H
A512	CH3-		H	H	H	H
A513	CH3-		H	H	H	H
A514	CH3-		H	H	H	H
A515	CH3-		H	H	H	H
A516	CH3-		H	H	H	H
A517	CH3-		H	H	H	H
A518	CH3-		H	H	H	H
A519	CH3-		H	H	H	H
A520	CH3-		H	H	H	H
A521	CH3-		H	H	H	H
A522	CH3-		H	H	H	H
A523	CH3-		H	H	H	H
A524	CH3-		H	H	H	H
A525	CH3-		H	H	H	H
A526	CH3-		H	H	H	H
A527	CH3-		H	H	H	H
A528	CH3-		H	H	H	H
A529	CH3-		H	H	H	H
A530	CH3-		H	H	H	H
A531	CH3-		H	H	H	H

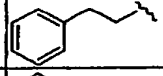
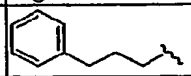
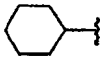
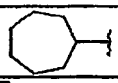
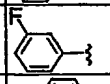
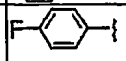
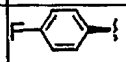
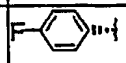
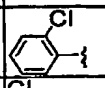
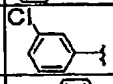
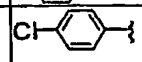
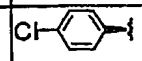
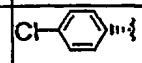
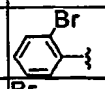
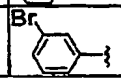
No.	R1	R2	R3	R4	R5	R6
A532	CH3-		H	H	H	H
A533	CH3-		H	H	H	H
A534	CH3-		H	H	H	H
A535	CH3-		H	H	H	H
A536	CH3-		H	H	H	H
A537	CH3-		H	H	H	H
A538	CH3-		H	H	H	H
A539	CH3-		H	H	H	H
A540	CH3-		H	H	H	H
A541	CH3-		H	H	H	H
A542	CH3-		H	H	H	H
A543	CH3-		H	H	H	H
A544	CH3-		H	H	H	H
A545	CH3-		H	H	H	H
A546	CH3-		H	H	H	H
A547	CH3-		H	H	H	H
A548	CH3-		H	H	H	H
A549	CH3-		H	H	H	H
A550	CH3-		H	H	H	H
A551	CH3-		H	H	H	H
A552	CH3-		H	H	H	H
A553	CH3-		H	H	H	H

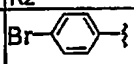
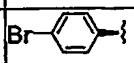
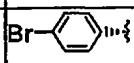
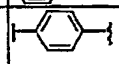
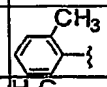
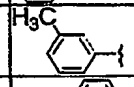
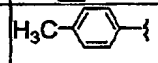
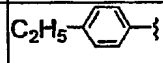
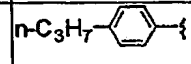
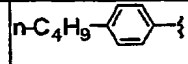
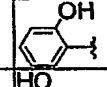
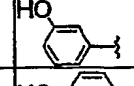
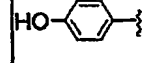
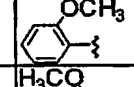
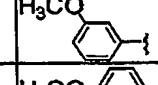
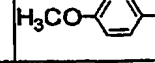
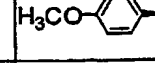
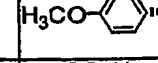
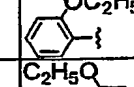
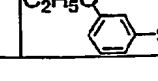
No.	R1	R2	R3	R4	R5	R6
A554	CH3-		H	H	H	H
A555	CH3-		H	H	H	H
A556	CH3-		H	H	H	H
A557	CH3-		H	H	H	H
A558	CH3-		H	H	H	H
A559	CH3-		H	H	H	H
A560	CH3-		H	H	H	H
A561	CH3-		H	H	H	H
A562	CH3-		H	H	H	H
A563	CH3-		H	H	H	H
A564	CH3-		H	H	H	H
A565	CH3-		H	H	H	H
A566	CH3-		H	H	H	H
A567	CH3-		H	H	H	H
A568	CH3-		H	H	H	H
A569	CH3-		H	H	H	H
A570	CH3-		H	H	H	H
A571	CH3-		H	H	H	H
A572	CH3-		H	H	H	H
A573	CH3-		H	H	H	H
A574	CH3-		H	H	H	H
A575	CH3-		H	H	H	H

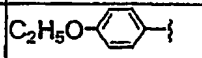
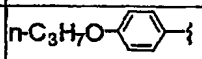
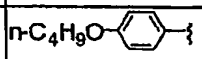
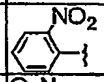
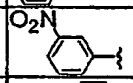
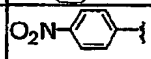
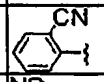
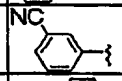
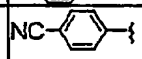
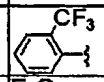
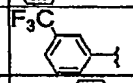
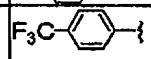
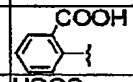
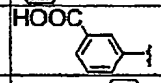
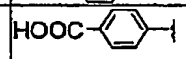
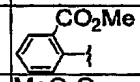
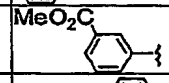
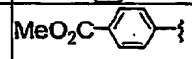
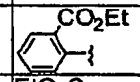
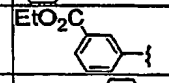
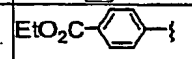
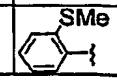
No.	R1	R2	R3	R4	R5	R6
A576	CH3-		H	H	H	H
A577	CH3-		H	H	H	H
A578	CH3-		H	H	H	H
A579	CH3-		H	H	H	H
A580	CH3-		H	H	H	H
A581	CH3-		H	H	H	H
A582	CH3-		H	H	H	H
A583	CH3-		H	H	H	H
A584	CH3-		H	H	H	H
A585	CH3-		H	H	H	H
A586	CH3-		H	H	H	H
A587	CH3-		H	H	H	H
A588	CH3-		H	H	H	H
A589	CH3-		H	H	H	H
A590	CH3-		H	H	H	H
A591	CH3-		H	H	H	H
A592	CH3-		H	H	H	H
A593	CH3-		H	H	H	H
A594	CH3-		H	H	H	H
A595	CH3-		H	H	H	H
A596	CH3-		H	H	H	H
A597	CH3-		H	H	H	H

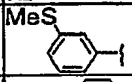
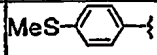
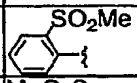
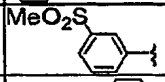
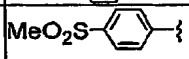
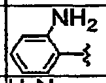
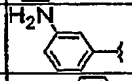
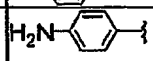
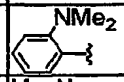
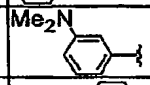
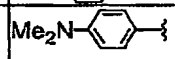
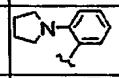
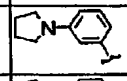
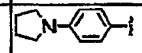
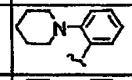
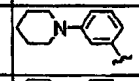
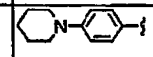
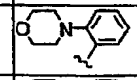
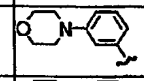
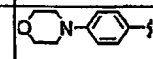
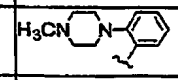
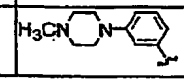
No.	R1	R2	R3	R4	R5	R6
A598	CH3-		H	H	H	H
A599	CH3-		H	H	H	H
A600	CH3-		H	H	H	H
A601	CH3-		H	H	H	H
A602	CH3-		H	H	H	H
A603	CH3-		H	H	H	H
A604	CH3-		H	H	H	H
A605	CH3-		H	H	H	H
A606	CH3-		H	H	H	H
A607	CH3-		H	H	H	H
A608	CH3-		H	H	H	H
A609	CH3-		H	H	H	H
A610	CH3-		H	H	H	H
A611	CH3-		H	H	H	H
A612	CH3-		H	H	H	H
A613	CH3-		H	H	H	H
A614	CH3-		H	H	H	H
A615	CH3-		H	H	H	H
A616	CH3-		H	H	H	H
A617	CH3-		H	H	H	H
A618	CH3-		H	H	H	H
A619	CH3-		H	H	H	H

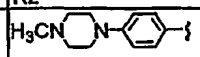
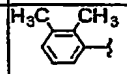
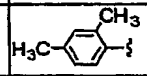
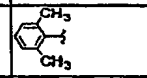
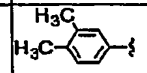
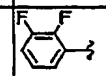
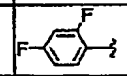
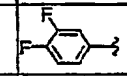
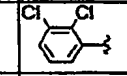
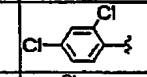
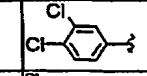
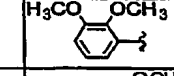
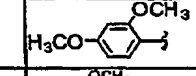
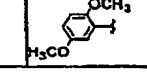
No.	R1	R2	R3	R4	R5	R6
A620	CH3–		H	H	H	H
A621	CH3–		H	H	H	H
A622	CH3–		H	H	H	H
A623	CH3–	CH3–	H	CH3	H	H
A624	CH3–	CH3CH2–	H	CH3	H	H
A625	CH3–		H	CH3	H	H
A626	CH3–		H	CH3	H	H
A627	CH3–		H	CH3	H	H
A628	CH3–		H	CH3	H	H
A629	CH3–		H	CH3	H	H
A630	CH3–		H	CH3	H	H
A631	CH3–		H	CH3	H	H
A632	CH3–		H	CH3	H	H
A633	CH3–		H	CH3	H	H
A634	CH3–		H	CH3	H	H
A635	CH3–		H	CH3	H	H
A636	CH3–		H	CH3	H	H
A637	CH3–		H	CH3	H	H
A638	CH3–		H	CH3	H	H
A639	CH3–	n–C8H17–	H	CH3	H	H
A640	CH3–		H	CH3	H	H
A641	CH3–		H	CH3	H	H

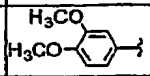
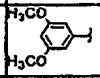
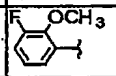
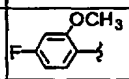
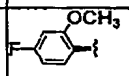
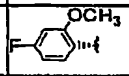
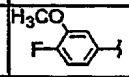
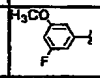
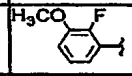
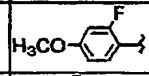
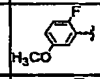
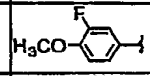
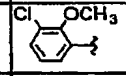
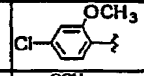
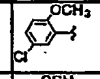
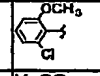
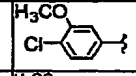
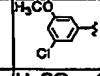
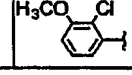
No.	R1	R2	R3	R4	R5	R6
A642	CH3-		H	CH3	H	H
A643	CH3-		H	CH3	H	H
A644	CH3-		H	CH3	H	H
A645	CH3-		H	CH3	H	H
A646	CH3-		H	CH3	H	H
A647	CH3-		H	CH3	H	H
A648	CH3-		H	CH3	H	H
A649	CH3-		H	CH3	H	H
A650	CH3-		H	CH3	H	H
A651	CH3-		H	CH3	H	H
A652	CH3-		H	CH3	H	H
A653	CH3-		H	CH3	H	H
A654	CH3-		H	CH3	H	H
A655	CH3-		H	CH3	H	H
A658	CH3-		H	CH3	H	H
A657	CH3-		H	CH3	H	H
A658	CH3-		H	CH3	H	H
A659	CH3-		H	CH3	H	H
A660	CH3-		H	CH3	H	H
A661	CH3-		H	CH3	H	H
A662	CH3-		H	CH3	H	H
A663	CH3-		H	CH3	H	H

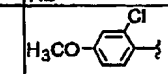
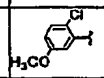
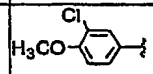
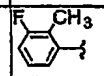
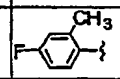
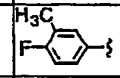
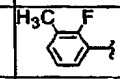
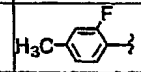
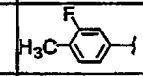
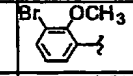
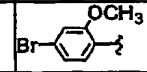
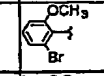
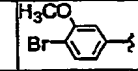
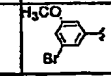
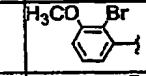
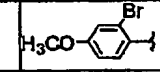
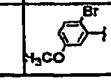
No.	R1	R2	R3	R4	R5	R6
A664	CH3-		H	CH3	H	H
A665	CH3-		H	CH3	H	H
A666	CH3-		H	CH3	H	H
A667	CH3-		H	CH3	H	H
A668	CH3-		H	CH3	H	H
A669	CH3-		H	CH3	H	H
A670	CH3-		H	CH3	H	H
A671	CH3-		H	CH3	H	H
A672	CH3-		H	CH3	H	H
A673	CH3-		H	CH3	H	H
A674	CH3-		H	CH3	H	H
A675	CH3-		H	CH3	H	H
A676	CH3-		H	CH3	H	H
A677	CH3-		H	CH3	H	H
A678	CH3-		H	CH3	H	H
A679	CH3-		H	CH3	H	H
A680	CH3-		H	CH3	H	H
A681	CH3-		H	CH3	H	H
A682	CH3-		H	CH3	H	H
A683	CH3-		H	CH3	H	H
A684	CH3-		H	CH3	H	H
A685	CH3-		H	CH3	H	H

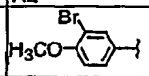
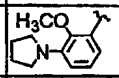
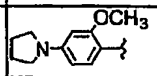
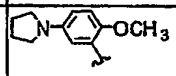
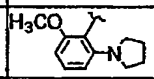
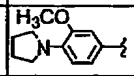
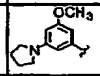
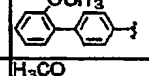
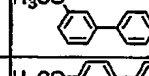
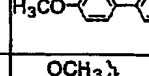
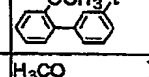
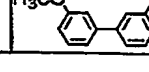
No.	R1	R2	R3	R4	R5	R6
A686	CH3-		H	CH3	H	H
A687	CH3-		H	CH3	H	H
A688	CH3-		H	CH3	H	H
A689	CH3-		H	CH3	H	H
A690	CH3-		H	CH3	H	H
A691	CH3-		H	CH3	H	H
A692	CH3-		H	CH3	H	H
A693	CH3-		H	CH3	H	H
A694	CH3-		H	CH3	H	H
A695	CH3-		H	CH3	H	H
A696	CH3-		H	CH3	H	H
A697	CH3-		H	CH3	H	H
A698	CH3-		H	CH3	H	H
A699	CH3-		H	CH3	H	H
A700	CH3-		H	CH3	H	H
A701	CH3-		H	CH3	H	H
A702	CH3-		H	CH3	H	H
A703	CH3-		H	CH3	H	H
A704	CH3-		H	CH3	H	H
A705	CH3-		H	CH3	H	H
A706	CH3-		H	CH3	H	H
A707	CH3-		H	CH3	H	H

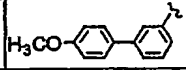
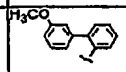
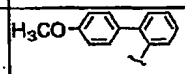
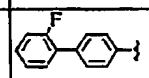
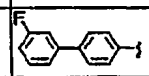
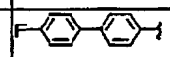
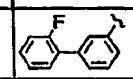
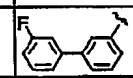
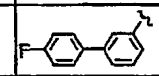
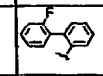
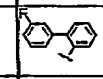
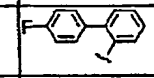
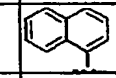
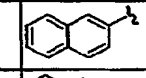
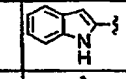
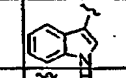
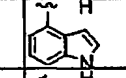
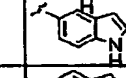
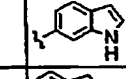
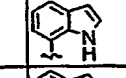
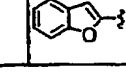
No.	R1	R2	R3	R4	R5	R6
A708	CH3-		H	CH3	H	H
A709	CH3-		H	CH3	H	H
A710	CH3-		H	CH3	H	H
A711	CH3-		H	CH3	H	H
A712	CH3-		H	CH3	H	H
A713	CH3-		H	CH3	H	H
A714	CH3-		H	CH3	H	H
A715	CH3-		H	CH3	H	H
A716	CH3-		H	CH3	H	H
A717	CH3-		H	CH3	H	H
A718	CH3-		H	CH3	H	H
A719	CH3-		H	CH3	H	H
A720	CH3-		H	CH3	H	H
A721	CH3-		H	CH3	H	H
A722	CH3-		H	CH3	H	H
A723	CH3-		H	CH3	H	H
A724	CH3-		H	CH3	H	H
A725	CH3-		H	CH3	H	H
A726	CH3-		H	CH3	H	H
A727	CH3-		H	CH3	H	H
A728	CH3-		H	CH3	H	H
A729	CH3-		H	CH3	H	H

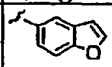
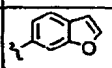
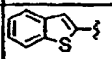
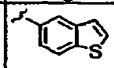
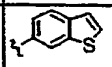
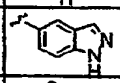
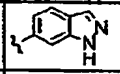
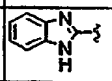
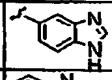
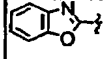
No.	R1	R2	R3	R4	R5	R6
A730	CH3-		H	CH3	H	H
A731	CH3-		H	CH3	H	H
A732	CH3-		H	CH3	H	H
A733	CH3-		H	CH3	H	H
A734	CH3-		H	CH3	H	H
A735	CH3-		H	CH3	H	H
A736	CH3-		H	CH3	H	H
A737	CH3-		H	CH3	H	H
A738	CH3-		H	CH3	H	H
A739	CH3-		H	CH3	H	H
A740	CH3-		H	CH3	H	H
A741	CH3-		H	CH3	H	H
A742	CH3-		H	CH3	H	H
A743	CH3-		H	CH3	H	H
A744	CH3-		H	CH3	H	H
A745	CH3-		H	CH3	H	H
A746	CH3-		H	CH3	H	H
A747	CH3-		H	CH3	H	H
A748	CH3-		H	CH3	H	H
A749	CH3-		H	CH3	H	H
A750	CH3-		H	CH3	H	H
A751	CH3-		H	CH3	H	H

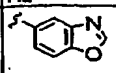
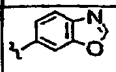
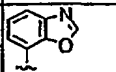
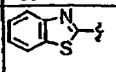
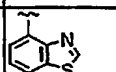
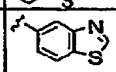
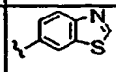
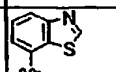
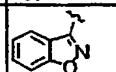
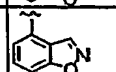
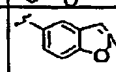
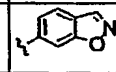
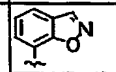
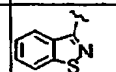
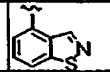
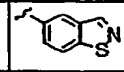
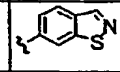
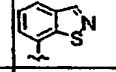
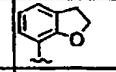
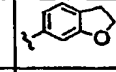
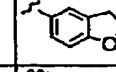
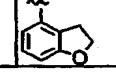
No.	R1	R2	R3	R4	R5	R6
A752	CH3-		H	CH3	H	H
A753	CH3-		H	CH3	H	H
A754	CH3-		H	CH3	H	H
A755	CH3-		H	CH3	H	H
A756	CH3-		H	CH3	H	H
A757	CH3-		H	CH3	H	H
A758	CH3-		H	CH3	H	H
A759	CH3-		H	CH3	H	H
A760	CH3-		H	CH3	H	H
A761	CH3-		H	CH3	H	H
A762	CH3-		H	CH3	H	H
A763	CH3-		H	CH3	H	H
A764	CH3-		H	CH3	H	H
A765	CH3-		H	CH3	H	H
A766	CH3-		H	CH3	H	H
A767	CH3-		H	CH3	H	H
A768	CH3-		H	CH3	H	H
A769	CH3-		H	CH3	H	H
A770	CH3-		H	CH3	H	H
A771	CH3-		H	CH3	H	H
A772	CH3-		H	CH3	H	H
A773	CH3-		H	CH3	H	H

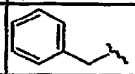
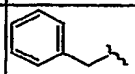
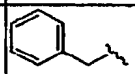
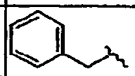
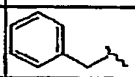
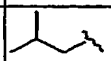
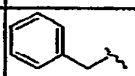
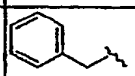
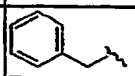
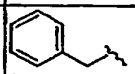
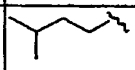
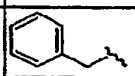
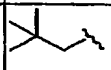
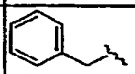
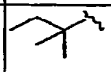
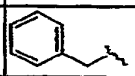
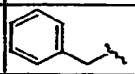
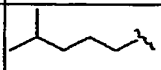
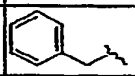
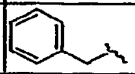
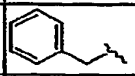
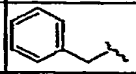
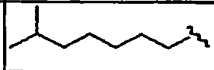
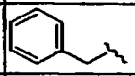
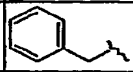
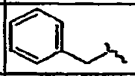
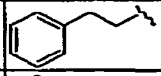
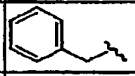
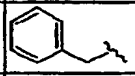
No.	R1	R2	R3	R4	R5	R6
A774	CH3-		H	CH3	H	H
A775	CH3-		H	CH3	H	H
A776	CH3-		H	CH3	H	H
A777	CH3-		H	CH3	H	H
A778	CH3-		H	CH3	H	H
A779	CH3-		H	CH3	H	H
A780	CH3-		H	CH3	H	H
A781	CH3-		H	CH3	H	H
A782	CH3-		H	CH3	H	H
A783	CH3-		H	CH3	H	H
A784	CH3-		H	CH3	H	H
A785	CH3-		H	CH3	H	H
A786	CH3-		H	CH3	H	H
A787	CH3-		H	CH3	H	H
A788	CH3-		H	CH3	H	H
A789	CH3-		H	CH3	H	H
A790	CH3-		H	CH3	H	H
A791	CH3-		H	CH3	H	H
A792	CH3-		H	CH3	H	H
A793	CH3-		H	CH3	H	H
A794	CH3-		H	CH3	H	H
A795	CH3-		H	CH3	H	H

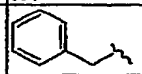
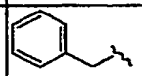
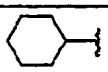
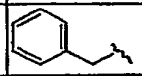
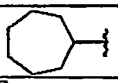
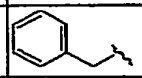
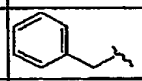
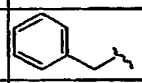
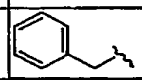
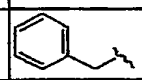
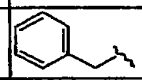
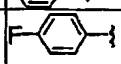
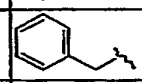
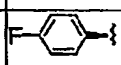
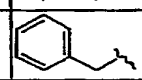
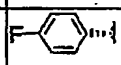
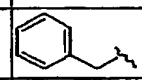
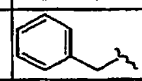
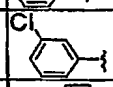
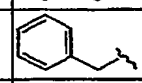
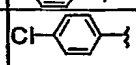
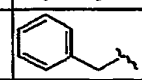
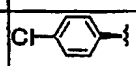
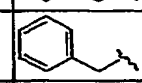
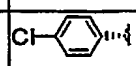
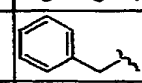
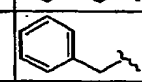
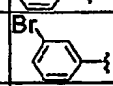
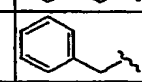
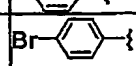
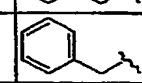
No.	R1	R2	R3	R4	R5	R6
A796	CH3-		H	CH3	H	H
A797	CH3-		H	CH3	H	H
A798	CH3-		H	CH3	H	H
A799	CH3-		H	CH3	H	H
A800	CH3-		H	CH3	H	H
A801	CH3-		H	CH3	H	H
A802	CH3-		H	CH3	H	H
A803	CH3-		H	CH3	H	H
A804	CH3-		H	CH3	H	H
A805	CH3-		H	CH3	H	H
A806	CH3-		H	CH3	H	H
A807	CH3-		H	CH3	H	H
A808	CH3-		H	CH3	H	H
A809	CH3-		H	CH3	H	H
A810	CH3-		H	CH3	H	H
A811	CH3-		H	CH3	H	H
A812	CH3-		H	CH3	H	H
A813	CH3-		H	CH3	H	H
A814	CH3-		H	CH3	H	H
A815	CH3-		H	CH3	H	H
A816	CH3-		H	CH3	H	H
A817	CH3-		H	CH3	H	H

No.	R1	R2	R3	R4	R5	R6
A818	CH3-		H	CH3	H	H
A819	CH3-		H	CH3	H	H
A820	CH3-		H	CH3	H	H
A821	CH3-		H	CH3	H	H
A822	CH3-		H	CH3	H	H
A823	CH3-		H	CH3	H	H
A824	CH3-		H	CH3	H	H
A825	CH3-		H	CH3	H	H
A826	CH3-		H	CH3	H	H
A827	CH3-		H	CH3	H	H
A828	CH3-		H	CH3	H	H
A829	CH3-		H	CH3	H	H
A830	CH3-		H	CH3	H	H
A831	CH3-		H	CH3	H	H
A832	CH3-		H	CH3	H	H
A833	CH3-		H	CH3	H	H
A834	CH3-		H	CH3	H	H
A835	CH3-		H	CH3	H	H
A836	CH3-		H	CH3	H	H
A837	CH3-		H	CH3	H	H
A838	CH3-		H	CH3	H	H
A839	CH3-		H	CH3	H	H

No.	R1	R2	R3	R4	R5	R6
A840	CH3-		H	CH3	H	H
A841	CH3-		H	CH3	H	H
A842	CH3-		H	CH3	H	H
A843	CH3-		H	CH3	H	H
A844	CH3-		H	CH3	H	H
A845	CH3-		H	CH3	H	H
A846	CH3-		H	CH3	H	H
A847	CH3-		H	CH3	H	H
A848	CH3-		H	CH3	H	H
A849	CH3-		H	CH3	H	H
A850	CH3-		H	CH3	H	H
A851	CH3-		H	CH3	H	H
A852	CH3-		H	CH3	H	H
A853	CH3-		H	CH3	H	H
A854	CH3-		H	CH3	H	H
A855	CH3-		H	CH3	H	H
A856	CH3-		H	CH3	H	H
A857	CH3-		H	CH3	H	H
A858	CH3-		H	CH3	H	H
A859	CH3-		H	CH3	H	H
A860	CH3-		H	CH3	H	H

No.	R1	R2	R3	R4	R5	R6
A861	CH3-		H	CH3	H	H
A862	CH3-		H	CH3	H	H
A863	CH3-		H	CH3	H	H
A864	CH3-		H	CH3	H	H
A865	CH3-		H	CH3	H	H
A866	CH3-		H	CH3	H	H
A867	CH3-		H	CH3	H	H
A868	CH3-		H	CH3	H	H
A869	CH3-		H	CH3	H	H
A870	CH3-		H	CH3	H	H
A871	CH3-		H	CH3	H	H
A872	CH3-		H	CH3	H	H
A873	CH3-		H	CH3	H	H
A874	CH3-		H	CH3	H	H
A875	CH3-		H	CH3	H	H
A876	CH3-		H	CH3	H	H
A877	CH3-		H	CH3	H	H
A878	CH3-		H	CH3	H	H
A879	CH3-		H	CH3	H	H
A880	CH3-		H	CH3	H	H
A881	CH3-		H	CH3	H	H
A882	CH3-		H	CH3	H	H

No.	R1	R2	R3	R4	R5	R6
A883	CH3-	CH3-	H		H	H
A884	CH3-	CH3CH2-	H		H	H
A885	CH3-		H		H	H
A886	CH3-		H		H	H
A887	CH3-		H		H	H
A888	CH3-		H		H	H
A889	CH3-		H		H	H
A890	CH3-		H		H	H
A891	CH3-		H		H	H
A892	CH3-		H		H	H
A893	CH3-		H		H	H
A894	CH3-		H		H	H
A895	CH3-		H		H	H
A896	CH3-		H		H	H
A897	CH3-		H		H	H
A898	CH3-		H		H	H
A899	CH3-	n-C8H17-	H		H	H
A900	CH3-		H		H	H
A901	CH3-		H		H	H
A902	CH3-		H		H	H
A903	CH3-		H		H	H
A904	CH3-		H		H	H

No.	R1	R2	R3	R4	R5	R6
A905	CH3-		H		H	H
A906	CH3-		H		H	H
A907	CH3-		H		H	H
A908	CH3-		H		H	H
A909	CH3-		H		H	H
A910	CH3-		H		H	H
A911	CH3-		H		H	H
A912	CH3-		H		H	H
A913	CH3-		H		H	H
A914	CH3-		H		H	H
A915	CH3-		H		H	H
A916	CH3-		H		H	H
A917	CH3-		H		H	H
A918	CH3-		H		H	H
A919	CH3-		H		H	H
A920	CH3-		H		H	H
A921	CH3-		H		H	H
A922	CH3-		H		H	H
A923	CH3-		H		H	H
A924	CH3-		H		H	H
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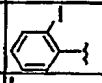
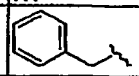
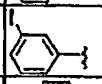
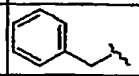
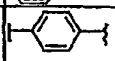
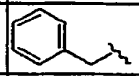
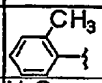
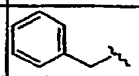
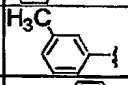
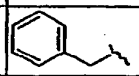
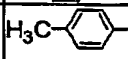
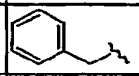
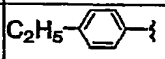
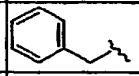
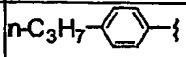
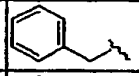
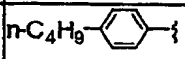
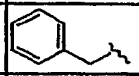
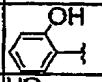
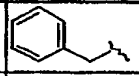
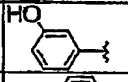
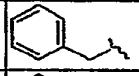
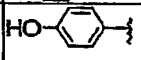
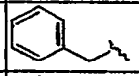
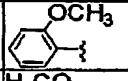
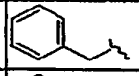
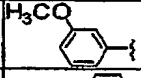
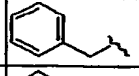
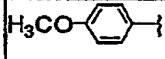
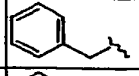
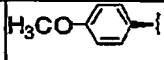
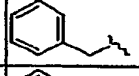
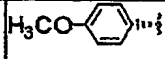
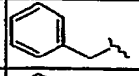
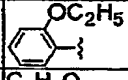
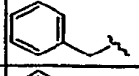
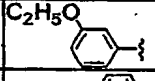
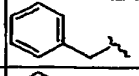
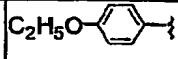
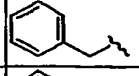
A927	CH3-		H		H	H
A928	CH3-		H		H	H
A929	CH3-		H		H	H
A930	CH3-		H		H	H
A931	CH3-		H		H	H
A932	CH3-		H		H	H
A933	CH3-		H		H	H
A934	CH3-		H		H	H
A935	CH3-		H		H	H
A936	CH3-		H		H	H
A937	CH3-		H		H	H
A938	CH3-		H		H	H
A939	CH3-		H		H	H
A940	CH3-		H		H	H
A941	CH3-		H		H	H
A942	CH3-		H		H	H
A943	CH3-		H		H	H
A944	CH3-		H		H	H
A945	CH3-		H		H	H
A946	CH3-		H		H	H
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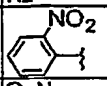
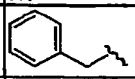
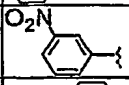
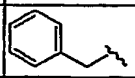
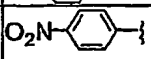
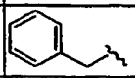
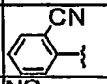
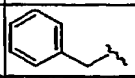
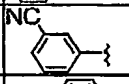
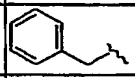
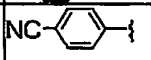
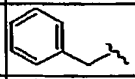
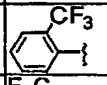
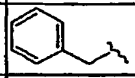
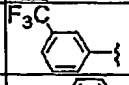
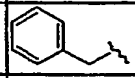
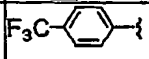
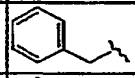
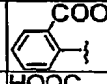
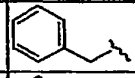
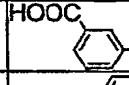
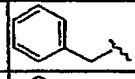
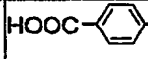
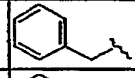
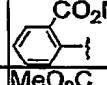
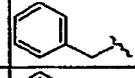
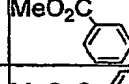
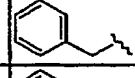
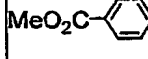
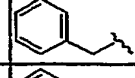
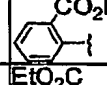
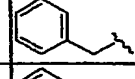
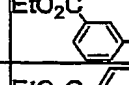
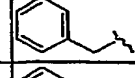
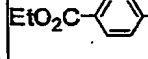
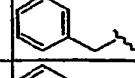
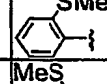
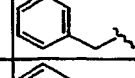
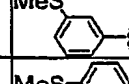
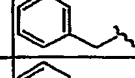
A949	CH3-		H		H	H
A950	CH3-		H		H	H
A951	CH3-		H		H	H
A952	CH3-		H		H	H
A953	CH3-		H		H	H
A954	CH3-		H		H	H
A955	CH3-		H		H	H
A956	CH3-		H		H	H
A957	CH3-		H		H	H
A958	CH3-		H		H	H
A959	CH3-		H		H	H
A960	CH3-		H		H	H
A961	CH3-		H		H	H
A962	CH3-		H		H	H
A963	CH3-		H		H	H
A964	CH3-		H		H	H
A965	CH3-		H		H	H
A966	CH3-		H		H	H
A967	CH3-		H		H	H
A968	CH3-		H		H	H
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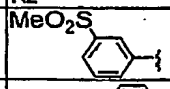
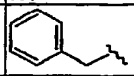
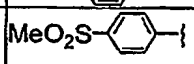
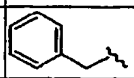
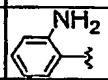
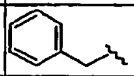
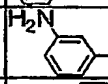
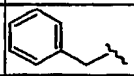
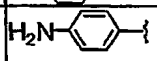
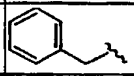
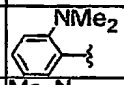
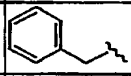
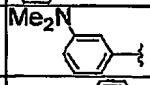
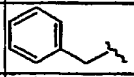
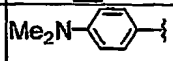
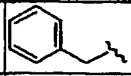
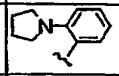
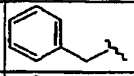
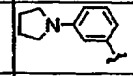
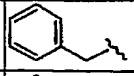
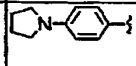
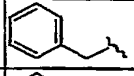
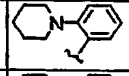
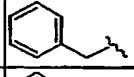
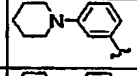
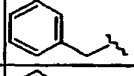
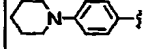
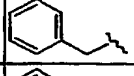
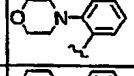
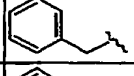
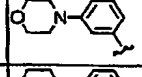
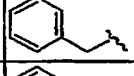
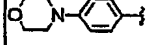
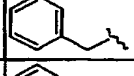
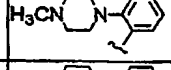
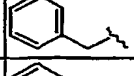
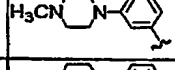
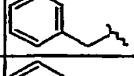
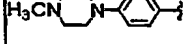
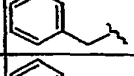
No.	R1	R2	R3	R4	R5	R6
A971	CH3-		H		H	H
A972	CH3-		H		H	H
A973	CH3-		H		H	H
A974	CH3-		H		H	H
A975	CH3-		H		H	H
A976	CH3-		H		H	H
A977	CH3-		H		H	H
A978	CH3-		H		H	H
A979	CH3-		H		H	H
A980	CH3-		H		H	H
A981	CH3-		H		H	H
A982	CH3-		H		H	H
A983	CH3-		H		H	H
A984	CH3-		H		H	H
A985	CH3-		H		H	H
A986	CH3-		H		H	H
A987	CH3-		H		H	H
A988	CH3-		H		H	H
A989	CH3-		H		H	H
A990	CH3-		H		H	H
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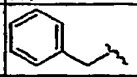
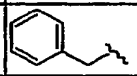
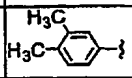
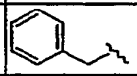
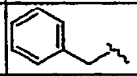
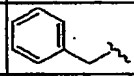
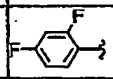
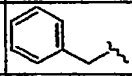
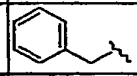
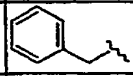
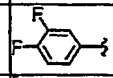
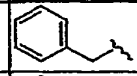
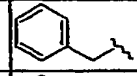
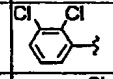
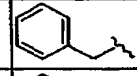
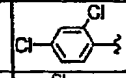
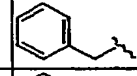
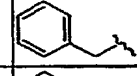
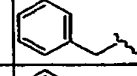
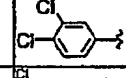
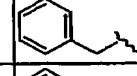
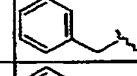
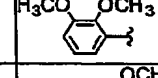
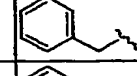
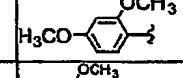
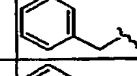
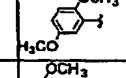
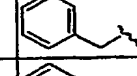
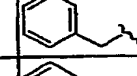
A993	CH3-		H		H	H
A994	CH3-		H		H	H
A995	CH3-		H		H	H
A996	CH3-		H		H	H
A997	CH3-		H		H	H
A998	CH3-		H		H	H
A999	CH3-		H		H	H
A1000	CH3-		H		H	H
A1001	CH3-		H		H	H
A1002	CH3-		H		H	H
A1003	CH3-		H		H	H
A1004	CH3-		H		H	H
A1005	CH3-		H		H	H
A1006	CH3-		H		H	H
A1007	CH3-		H		H	H
A1008	CH3-		H		H	H
A1009	CH3-		H		H	H
A1010	CH3-		H		H	H
A1011	CH3-		H		H	H
A1012	CH3-		H		H	H
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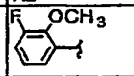
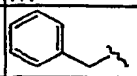
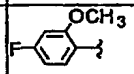
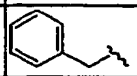
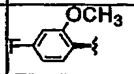
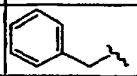
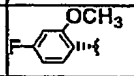
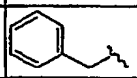
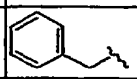
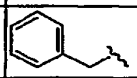
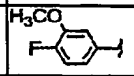
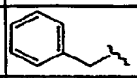
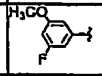
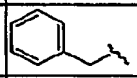
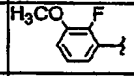
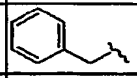
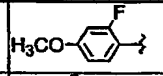
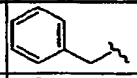
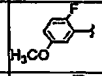
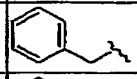
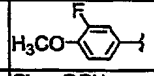
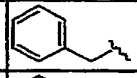
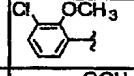
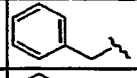
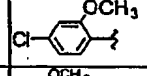
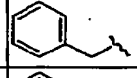
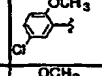
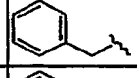
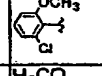
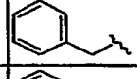
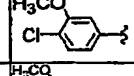
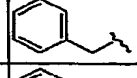
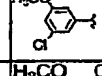
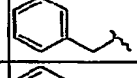
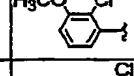
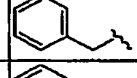
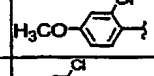
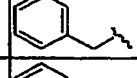
A1015	CH3-		H		H	H
A1016	CH3-		H		H	H
A1017	CH3-		H		H	H
A1018	CH3-		H		H	H
A1019	CH3-		H		H	H
A1020	CH3-		H		H	H
A1021	CH3-		H		H	H
A1022	CH3-		H		H	H
A1023	CH3-		H		H	H
A1024	CH3-		H		H	H
A1025	CH3-		H		H	H
A1026	CH3-		H		H	H
A1027	CH3-		H		H	H
A1028	CH3-		H		H	H
A1029	CH3-		H		H	H
A1030	CH3-		H		H	H
A1031	CH3-		H		H	H
A1032	CH3-		H		H	H
A1033	CH3-		H		H	H
A1034	CH3-		H		H	H
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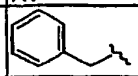
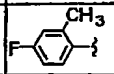
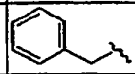
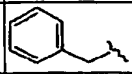
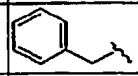
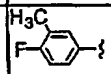
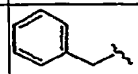
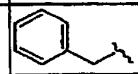
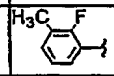
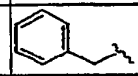
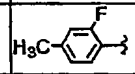
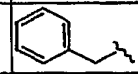
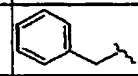
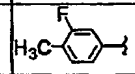
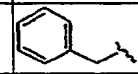
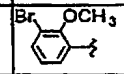
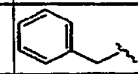
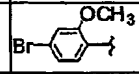
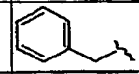
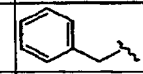
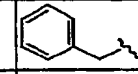
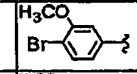
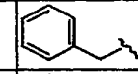
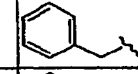
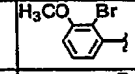
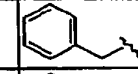
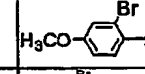
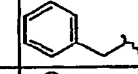
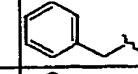
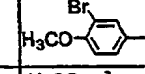
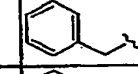
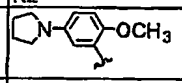
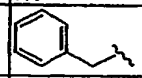
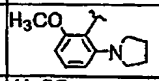
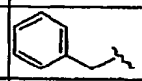
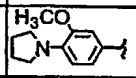
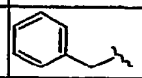
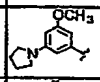
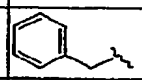
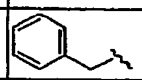
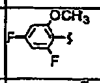
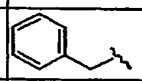
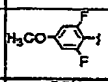
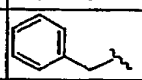
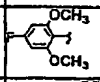
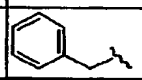
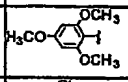
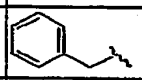
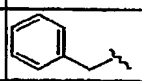
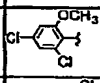
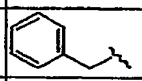
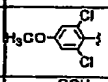
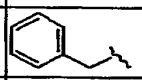
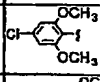
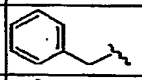
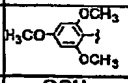
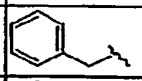
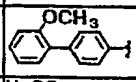
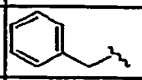
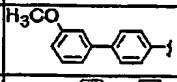
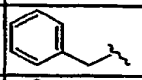
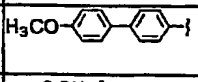
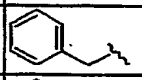
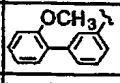
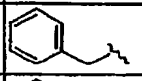
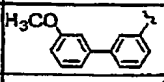
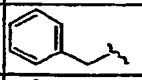
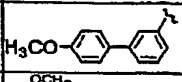
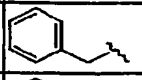
No.	R1	R2	R3	R4	R5	R6
A1037	CH3-		H		H	H
A1038	CH3-		H		H	H
A1039	CH3-		H		H	H
A1040	CH3-		H		H	H
A1041	CH3-		H		H	H
A1042	CH3-		H		H	H
A1043	CH3-		H		H	H
A1044	CH3-		H		H	H
A1045	CH3-		H		H	H
A1046	CH3-		H		H	H
A1047	CH3-		H		H	H
A1048	CH3-		H		H	H
A1049	CH3-		H		H	H
A1050	CH3-		H		H	H
A1051	CH3-		H		H	H
A1052	CH3-		H		H	H
A1053	CH3-		H		H	H
A1054	CH3-		H		H	H
A1055	CH3-		H		H	H
A1056	CH3-		H		H	H
A1057	CH3-		H		H	H
A1058	CH3-		H		H	H

No.	R1	R2	R3	R4	R5	R6
A1059	CH3-		H		H	H
A1060	CH3-		H		H	H
A1061	CH3-		H		H	H
A1062	CH3-		H		H	H
A1063	CH3-		H		H	H
A1064	CH3-		H		H	H
A1065	CH3-		H		H	H
A1066	CH3-		H		H	H
A1067	CH3-		H		H	H
A1068	CH3-		H		H	H
A1069	CH3-		H		H	H
A1070	CH3-		H		H	H
A1071	CH3-		H		H	H
A1072	CH3-		H		H	H
A1073	CH3-		H		H	H
A1074	CH3-		H		H	H
A1075	CH3-		H		H	H
A1076	CH3-		H		H	H
A1077	CH3-		H		H	H
A1078	CH3-		H		H	H
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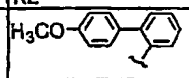
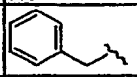
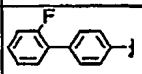
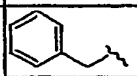
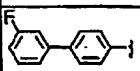
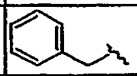
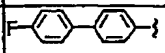
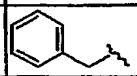
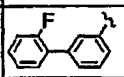
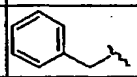
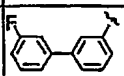
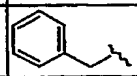
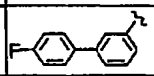
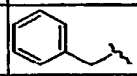
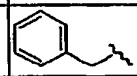
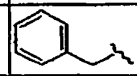
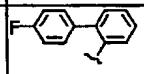
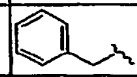
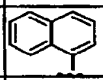
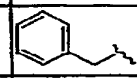
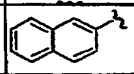
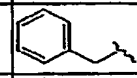
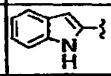
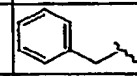
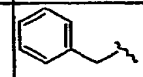
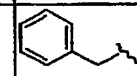
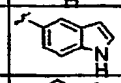
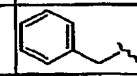
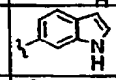
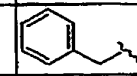
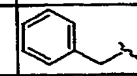
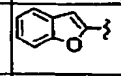
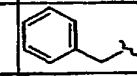
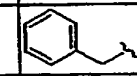
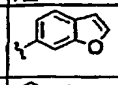
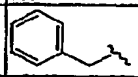
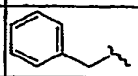
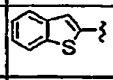
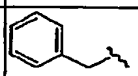
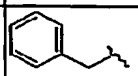
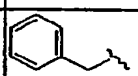
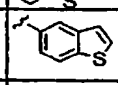
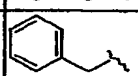
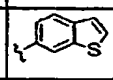
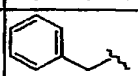
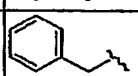
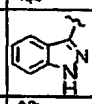
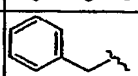
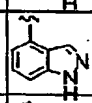
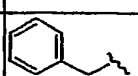
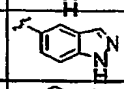
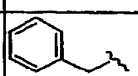
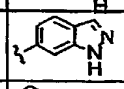
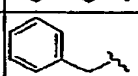
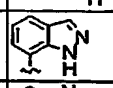
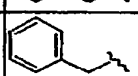
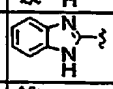
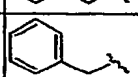
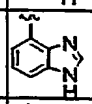
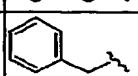
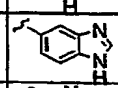
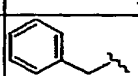
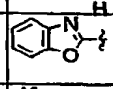
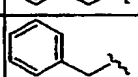
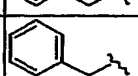
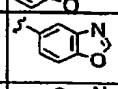
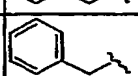
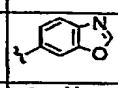
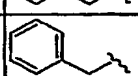
A1081	CH3-		H		H	H
A1082	CH3-		H		H	H
A1083	CH3-		H		H	H
A1084	CH3-		H		H	H
A1085	CH3-		H		H	H
A1086	CH3-		H		H	H
A1087	CH3-		H		H	H
A1088	CH3-		H		H	H
A1089	CH3-		H		H	H
A1090	CH3-		H		H	H
A1091	CH3-		H		H	H
A1092	CH3-		H		H	H
A1093	CH3-		H		H	H
A1094	CH3-		H		H	H
A1095	CH3-		H		H	H
A1096	CH3-		H		H	H
A1097	CH3-		H		H	H
A1098	CH3-		H		H	H
A1099	CH3-		H		H	H
A1100	CH3-		H		H	H
A1101	CH3-		H		H	H
A1102	CH3-		H		H	H

No.	R1	R2	R3	R4	R5	R6
A1103	CH3-		H		H	H
A1104	CH3-		H		H	H
A1105	CH3-		H		H	H
A1106	CH3-		H		H	H
A1107	CH3-		H		H	H
A1108	CH3-		H		H	H
A1109	CH3-		H		H	H
A1110	CH3-		H		H	H
A1111	CH3-		H		H	H
A1112	CH3-		H		H	H
A1113	CH3-		H		H	H
A1114	CH3-		H		H	H
A1115	CH3-		H		H	H
A1116	CH3-		H		H	H
A1117	CH3-		H		H	H
A1118	CH3-		H		H	H
A1119	CH3-		H		H	H
A1120	CH3-		H		H	H
A1121	CH3-		H		H	H
A1122	CH3-		H		H	H
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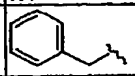
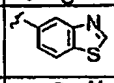
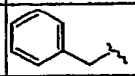
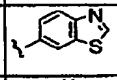
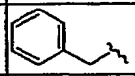
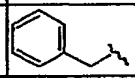
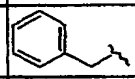
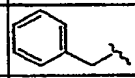
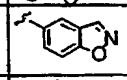
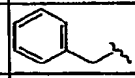
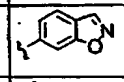
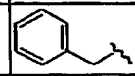
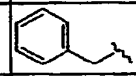
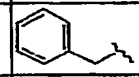
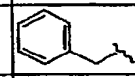
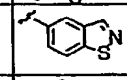
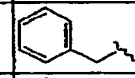
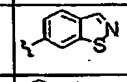
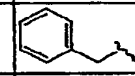
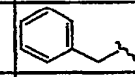
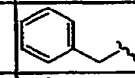
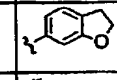
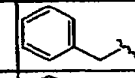
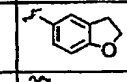
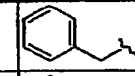
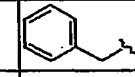
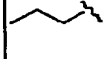
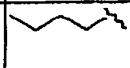
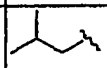
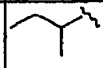
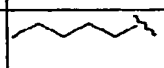
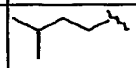
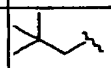
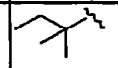
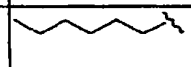
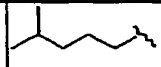
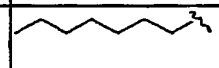
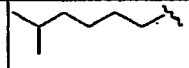
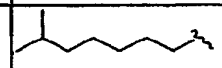
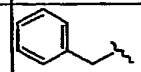
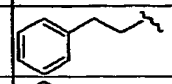
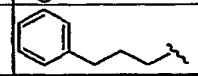
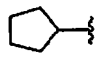
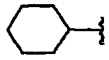
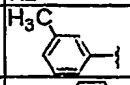
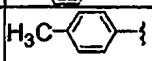
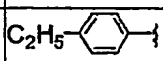
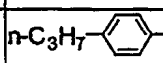
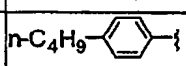
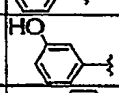
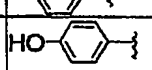
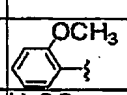
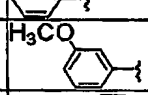
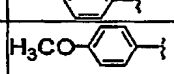
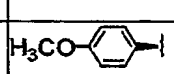
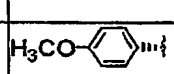
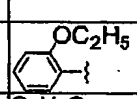
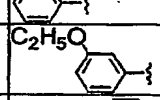
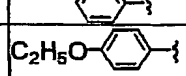
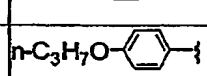
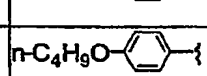
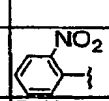
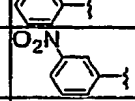
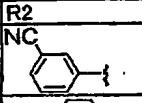
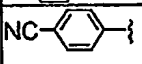
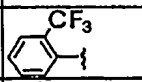
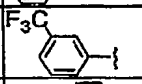
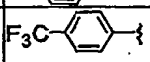
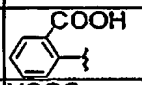
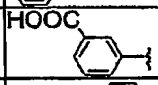
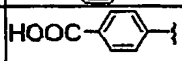
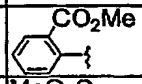
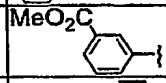
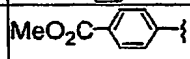
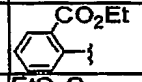
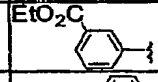
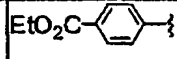
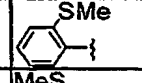
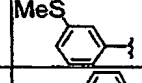
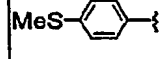
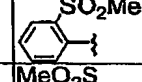
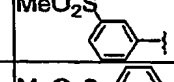
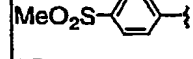
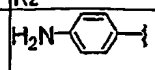
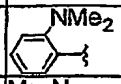
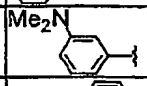
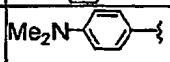
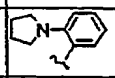
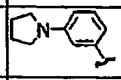
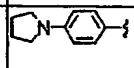
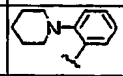
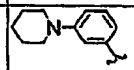
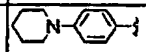
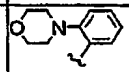
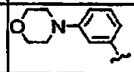
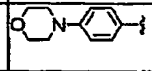
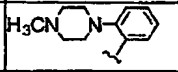
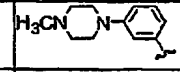
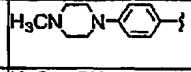
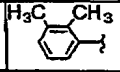
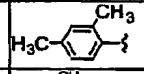
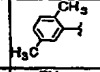
A1125	CH3-		H		H	H
A1126	CH3-		H		H	H
A1127	CH3-		H		H	H
A1128	CH3-		H		H	H
A1129	CH3-		H		H	H
A1130	CH3-		H		H	H
A1131	CH3-		H		H	H
A1132	CH3-		H		H	H
A1133	CH3-		H		H	H
A1134	CH3-		H		H	H
A1135	CH3-		H		H	H
A1136	CH3-		H		H	H
A1137	CH3-		H		H	H
A1138	CH3-		H		H	H
A1139	CH3-		H		H	H
A1140	CH3-		H		H	H
A1141	CH3-		H		H	H
A1142	CH3-		H		H	H
A1143	CH3-	CH3-	H		H	H
A1144	CH3-	CH3CH2-	H		H	H
A1145	CH3-		H		H	H
A1146	CH3-		H		H	H

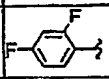
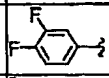
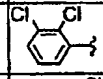
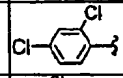
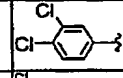
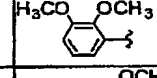
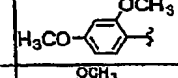
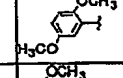
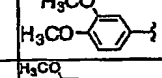
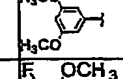
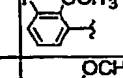
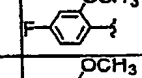
No.	R1	R2	R3	R4	R5	R6
A1147	CH3-		H		H	H
A1148	CH3-		H		H	H
A1149	CH3-		H		H	H
A1150	CH3-		H		H	H
A1151	CH3-		H		H	H
A1152	CH3-		H		H	H
A1153	CH3-		H		H	H
A1154	CH3-		H		H	H
A1155	CH3-		H		H	H
A1156	CH3-		H		H	H
A1157	CH3-		H		H	H
A1158	CH3-		H		H	H
A1159	CH3-	n-C8H17-	H		H	H
A1160	CH3-		H		H	H
A1161	CH3-		H		H	H
A1162	CH3-		H		H	H
A1163	CH3-		H		H	H
A1164	CH3-		H		H	H
A1165	CH3-		H		H	H
A1166	CH3-		H		H	H
A1167	CH3-		H		H	H
A1168	CH3-		H		H	H

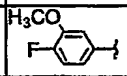
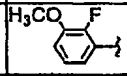
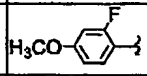
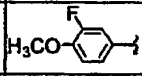
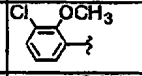
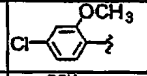
No.	R1	R2	R3	R4	R5	R6
A1169	CH3-		H		H	H
A1170	CH3-		H		H	H
A1171	CH3-		H		H	H
A1172	CH3-		H		H	H
A1173	CH3-		H		H	H
A1174	CH3-		H		H	H
A1175	CH3-		H		H	H
A1176	CH3-		H		H	H
A1177	CH3-		H		H	H
A1178	CH3-		H		H	H
A1179	CH3-		H		H	H
A1180	CH3-		H		H	H
A1181	CH3-		H		H	H
A1182	CH3-		H		H	H
A1183	CH3-		H		H	H
A1184	CH3-		H		H	H
A1185	CH3-		H		H	H
A1186	CH3-		H		H	H
A1187	CH3-		H		H	H
A1188	CH3-		H		H	H
A1189	CH3-		H		H	H
A1190	CH3-		H		H	H

No.	R1	R2	R3	R4	R5	R6
A1191	CH3-		H		H	H
A1192	CH3-		H		H	H
A1193	CH3-		H		H	H
A1194	CH3-		H		H	H
A1195	CH3-		H		H	H
A1196	CH3-		H		H	H
A1197	CH3-		H		H	H
A1198	CH3-		H		H	H
A1199	CH3-		H		H	H
A1200	CH3-		H		H	H
A1201	CH3-		H		H	H
A1202	CH3-		H		H	H
A1203	CH3-		H		H	H
A1204	CH3-		H		H	H
A1205	CH3-		H		H	H
A1206	CH3-		H		H	H
A1207	CH3-		H		H	H
A1208	CH3-		H		H	H
A1209	CH3-		H		H	H
A1210	CH3-		H		H	H
A1211	CH3-		H		H	H
A1212	CH3-		H		H	H

No.	R1	R2	R3	R4	R5	R6
A1213	CH3-		H		H	H
A1214	CH3-		H		H	H
A1215	CH3-		H		H	H
A1216	CH3-		H		H	H
A1217	CH3-		H		H	H
A1218	CH3-		H		H	H
A1219	CH3-		H		H	H
A1220	CH3-		H		H	H
A1221	CH3-		H		H	H
A1222	CH3-		H		H	H
A1223	CH3-		H		H	H
A1224	CH3-		H		H	H
A1225	CH3-		H		H	H
A1226	CH3-		H		H	H
A1227	CH3-		H		H	H
A1228	CH3-		H		H	H
A1229	CH3-		H		H	H
A1230	CH3-		H		H	H
A1231	CH3-		H		H	H
A1232	CH3-		H		H	H
A1233	CH3-		H		H	H
A1234	CH3-		H		H	H

No.	R1	R2	R3	R4	R5	R6
A1235	CH3-		H		H	H
A1236	CH3-		H		H	H
A1237	CH3-		H		H	H
A1238	CH3-		H		H	H
A1239	CH3-		H		H	H
A1240	CH3-		H		H	H
A1241	CH3-		H		H	H
A1242	CH3-		H		H	H
A1243	CH3-		H		H	H
A1244	CH3-		H		H	H
A1245	CH3-		H		H	H
A1246	CH3-		H		H	H
A1247	CH3-		H		H	H
A1248	CH3-		H		H	H
A1249	CH3-		H		H	H
A1250	CH3-		H		H	H
A1251	CH3-		H		H	H
A1252	CH3-		H		H	H
A1253	CH3-		H		H	H
A1254	CH3-		H		H	H
A1255	CH3-		H		H	H
A1256	CH3-		H		H	H

No.	R1	R2	R3	R4	R5	R6
A1257	CH3-		H		H	H
A1258	CH3-		H		H	H
A1259	CH3-		H		H	H
A1260	CH3-		H		H	H
A1261	CH3-		H		H	H
A1262	CH3-		H		H	H
A1263	CH3-		H		H	H
A1264	CH3-		H		H	H
A1265	CH3-		H		H	H
A1266	CH3-		H		H	H
A1267	CH3-		H		H	H
A1268	CH3-		H		H	H
A1269	CH3-		H		H	H
A1270	CH3-		H		H	H
A1271	CH3-		H		H	H
A1272	CH3-		H		H	H
A1273	CH3-		H		H	H
A1274	CH3-		H		H	H
A1275	CH3-		H		H	H
A1276	CH3-		H		H	H
A1277	CH3-		H		H	H
A1278	CH3-		H		H	H

No.	R1	R2	R3	R4	R5	R6
A1279	CH3-		H		H	H
A1280	CH3-		H		H	H
A1281	CH3-		H		H	H
A1282	CH3-		H		H	H
A1283	CH3-		H		H	H
A1284	CH3-		H		H	H
A1285	CH3-		H		H	H
A1286	CH3-		H		H	H
A1287	CH3-		H		H	H
A1288	CH3-		H		H	H
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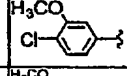
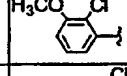
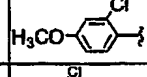
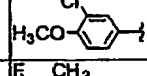
A1290	CH3-		H		H	H
A1291	CH3-		H		H	H
A1292	CH3-		H		H	H
A1293	CH3-		H		H	H
A1294	CH3-		H		H	H
A1295	CH3-		H		H	H
A1296	CH3-		H		H	H
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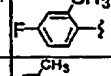
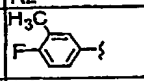
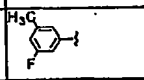
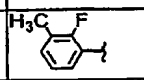
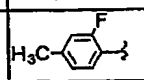
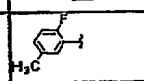
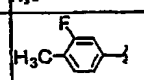
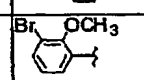
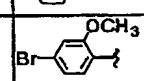
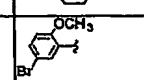
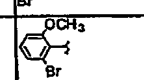
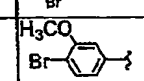
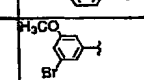
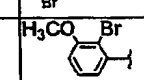
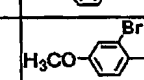
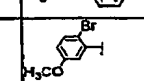
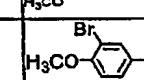
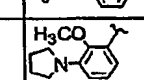
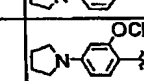
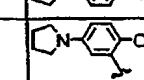
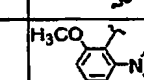
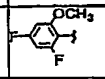
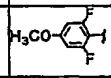
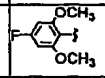
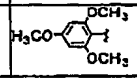
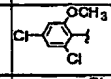
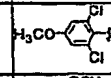
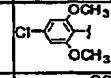
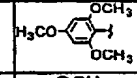
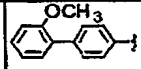
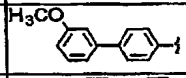
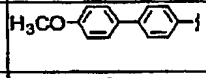
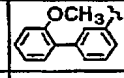
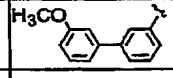
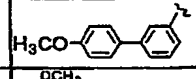
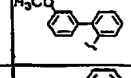
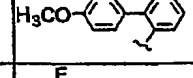
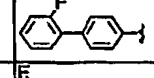
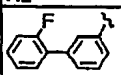
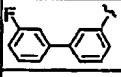
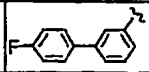
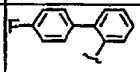
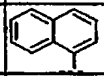
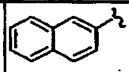
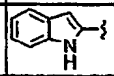
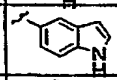
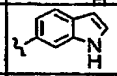
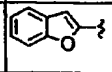
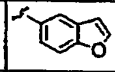
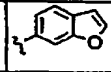
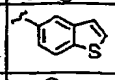
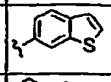
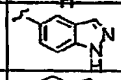
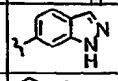
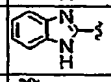
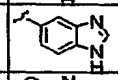
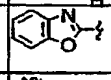
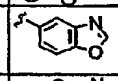
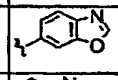
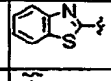
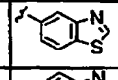
A1298	CH3-		H		H	H
A1299	CH3-		H		H	H
A1300	CH3-		H		H	H

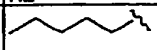
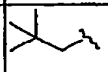
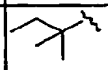
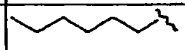
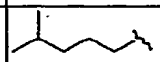
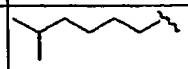
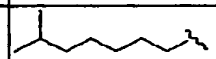
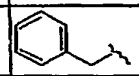
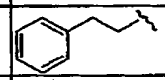
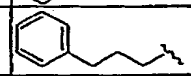
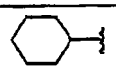
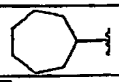
No.	R1	R2	R3	R4	R5	R6
A1301	CH3-		H		H	H
A1302	CH3-		H		H	H
A1303	CH3-		H		H	H
A1304	CH3-		H		H	H
A1305	CH3-		H		H	H
A1306	CH3-		H		H	H
A1307	CH3-		H		H	H
A1308	CH3-		H		H	H
A1309	CH3-		H		H	H
A1310	CH3-		H		H	H
A1311	CH3-		H		H	H
A1312	CH3-		H		H	H
A1313	CH3-		H		H	H
A1314	CH3-		H		H	H
A1315	CH3-		H		H	H
A1316	CH3-		H		H	H
A1317	CH3-		H		H	H
A1318	CH3-		H		H	H
A1319	CH3-		H		H	H
A1320	CH3-		H		H	H
A1321	CH3-		H		H	H
A1322	CH3-		H		H	H

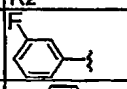
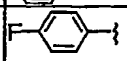
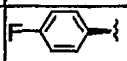
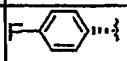
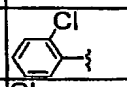
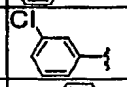
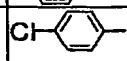
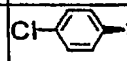
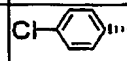
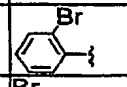
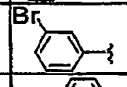
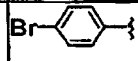
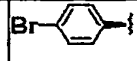
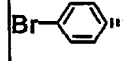
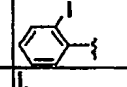
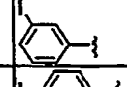
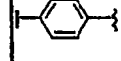
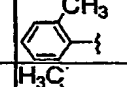
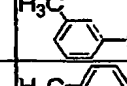
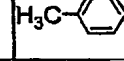
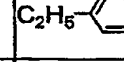
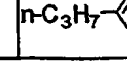
No.	R1	R2	R3	R4	R5	R6
A1323	CH3-		H		H	H
A1324	CH3-		H		H	H
A1325	CH3-		H		H	H
A1326	CH3-		H		H	H
A1327	CH3-		H		H	H
A1328	CH3-		H		H	H
A1329	CH3-		H		H	H
A1330	CH3-		H		H	H
A1331	CH3-		H		H	H
A1332	CH3-		H		H	H
A1333	CH3-		H		H	H
A1334	CH3-		H		H	H
A1335	CH3-		H		H	H
A1336	CH3-		H		H	H
A1337	CH3-		H		H	H
A1338	CH3-		H		H	H
A1339	CH3-		H		H	H
A1340	CH3-		H		H	H
A1341	CH3-		H		H	H
A1342	CH3-		H		H	H
A1343	CH3-		H		H	H
A1344	CH3-		H		H	H

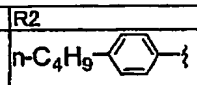
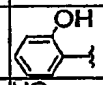
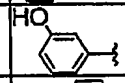
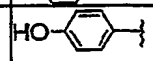
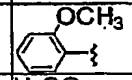
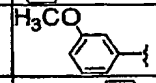
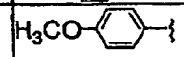
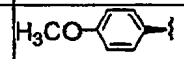
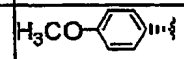
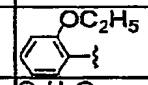
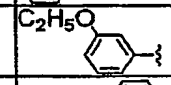
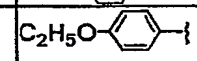
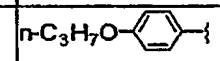
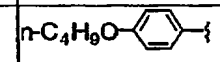
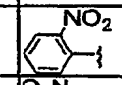
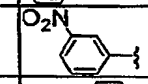
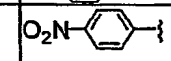
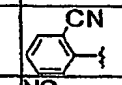
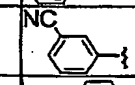
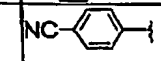
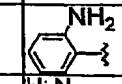
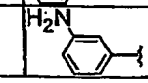
No.	R1	R2	R3	R4	R5	R6
A1345	CH3-		H		H	H
A1346	CH3-		H		H	H
A1347	CH3-		H		H	H
A1348	CH3-		H		H	H
A1349	CH3-		H		H	H
A1350	CH3-		H		H	H
A1351	CH3-		H		H	H
A1352	CH3-		H		H	H
A1353	CH3-		H		H	H
A1354	CH3-		H		H	H
A1355	CH3-		H		H	H
A1356	CH3-		H		H	H
A1357	CH3-		H		H	H
A1358	CH3-		H		H	H
A1359	CH3-		H		H	H
A1360	CH3-		H		H	H
A1361	CH3-		H		H	H
A1362	CH3-		H		H	H
A1363	CH3-		H		H	H
A1364	CH3-		H		H	H
A1365	CH3-		H		H	H
A1366	CH3-		H		H	H

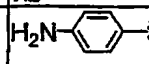
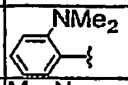
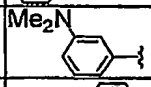
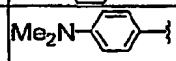
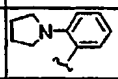
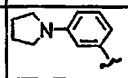
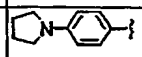
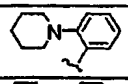
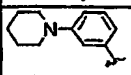
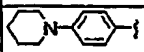
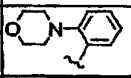
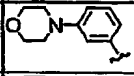
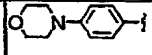
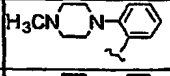
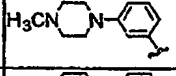
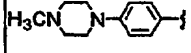
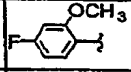
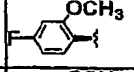
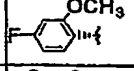
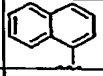
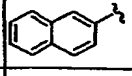
No.	R1	R2	R3	R4	R5	R6
A1367	CH3-		H		H	H
A1368	CH3-		H		H	H
A1369	CH3-		H		H	H
A1370	CH3-		H		H	H
A1371	CH3-		H		H	H
A1372	CH3-		H		H	H
A1373	CH3-		H		H	H
A1374	CH3-		H		H	H
A1375	CH3-		H		H	H
A1376	CH3-		H		H	H
A1377	CH3-		H		H	H
A1378	CH3-		H		H	H
A1379	CH3-		H		H	H
A1380	CH3-		H		H	H
A1381	CH3-		H		H	H
A1382	CH3-		H		H	H
A1383	CH3-		H		H	H
A1384	CH3-		H		H	H
A1385	CH3-		H		H	H
A1386	CH3-		H		H	H
A1387	CH3-		H		H	H
A1388	CH3-		H		H	H

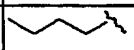
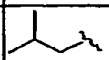
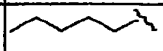
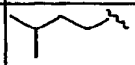
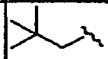
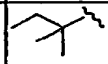
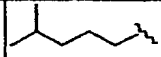
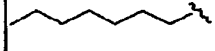
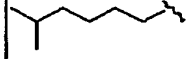
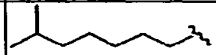
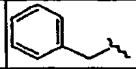
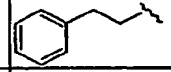
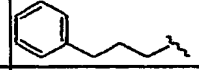
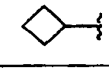
No.	R1	R2	R3	R4	R5	R6
A1389	CH3-		H		H	H
A1390	CH3-		H		H	H
A1391	CH3-		H		H	H
A1392	CH3-		H		H	H
A1393	CH3-		H		H	H
A1394	CH3-		H		H	H
A1395	CH3-		H		H	H
A1396	CH3-		H		H	H
A1397	CH3-		H		H	H
A1398	CH3-		H		H	H
A1399	CH3-		H		H	H
A1400	CH3-		H		H	H
A1401	CH3-		H		H	H
A1402	CH3-		H		H	H
A1403	CH3-	CH3-	CH3-	H	H	H
A1404	CH3-	CH3CH2-	CH3-	H	H	H
A1405	CH3-		CH3-	H	H	H
A1406	CH3-		CH3-	H	H	H
A1407	CH3-		CH3-	H	H	H
A1408	CH3-		CH3-	H	H	H
A1409	CH3-		CH3-	H	H	H
A1410	CH3-		CH3-	H	H	H

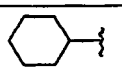
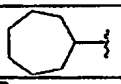
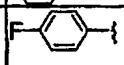
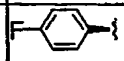
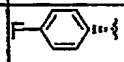
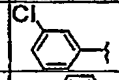
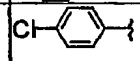
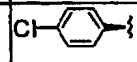
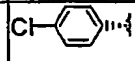
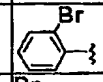
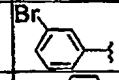
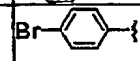
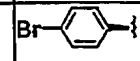
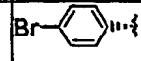
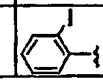
No.	R1	R2	R3	R4	R5	R6
A1411	CH3-		CH3-	H	H	H
A1412	CH3-		CH3-	H	H	H
A1413	CH3-		CH3-	H	H	H
A1414	CH3-		CH3-	H	H	H
A1415	CH3-		CH3-	H	H	H
A1416	CH3-		CH3-	H	H	H
A1417	CH3-		CH3-	H	H	H
A1418	CH3-		CH3-	H	H	H
A1419	CH3-	n-C8H17-	CH3-	H	H	H
A1420	CH3-		CH3-	H	H	H
A1421	CH3-		CH3-	H	H	H
A1422	CH3-		CH3-	H	H	H
A1423	CH3-		CH3-	H	H	H
A1424	CH3-		CH3-	H	H	H
A1425	CH3-		CH3-	H	H	H
A1426	CH3-		CH3-	H	H	H
A1427	CH3-		CH3-	H	H	H
A1428	CH3-		CH3-	H	H	H
A1429	CH3-		CH3-	H	H	H
A1430	CH3-		CH3-	H	H	H
A1431	CH3-		CH3-	H	H	H
A1432	CH3-		CH3-	H	H	H

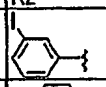
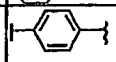
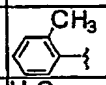
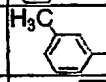
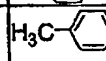
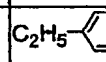
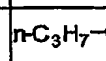
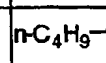
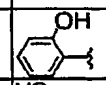
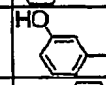
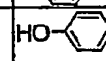
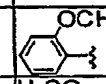
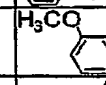
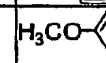
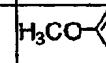
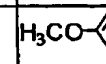
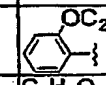
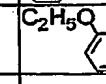
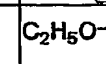
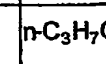
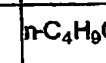
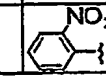
No.	R1	R2	R3	R4	R5	R6
A1433	CH3-		CH3-	H	H	H
A1434	CH3-		CH3-	H	H	H
A1435	CH3-		CH3-	H	H	H
A1436	CH3-		CH3-	H	H	H
A1437	CH3-		CH3-	H	H	H
A1438	CH3-		CH3-	H	H	H
A1439	CH3-		CH3-	H	H	H
A1440	CH3-		CH3-	H	H	H
A1441	CH3-		CH3-	H	H	H
A1442	CH3-		CH3-	H	H	H
A1443	CH3-		CH3-	H	H	H
A1444	CH3-		CH3-	H	H	H
A1445	CH3-		CH3-	H	H	H
A1446	CH3-		CH3-	H	H	H
A1447	CH3-		CH3-	H	H	H
A1448	CH3-		CH3-	H	H	H
A1449	CH3-		CH3-	H	H	H
A1450	CH3-		CH3-	H	H	H
A1451	CH3-		CH3-	H	H	H
A1452	CH3-		CH3-	H	H	H
A1453	CH3-		CH3-	H	H	H
A1454	CH3-		CH3-	H	H	H

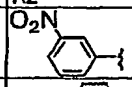
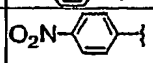
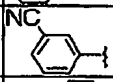
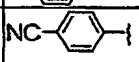
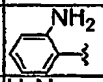
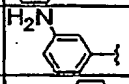
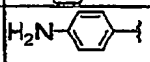
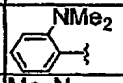
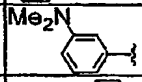
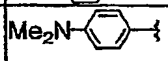
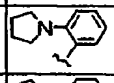
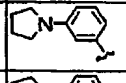
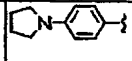
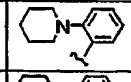
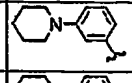
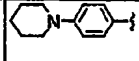
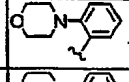
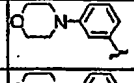
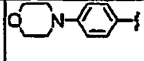
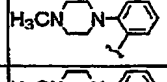
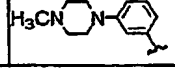
No.	R1	R2	R3	R4	R5	R6
A1455	CH3-		CH3-	H	H	H
A1456	CH3-		CH3-	H	H	H
A1457	CH3-		CH3-	H	H	H
A1458	CH3-		CH3-	H	H	H
A1459	CH3-		CH3-	H	H	H
A1460	CH3-		CH3-	H	H	H
A1461	CH3-		CH3-	H	H	H
A1462	CH3-		CH3-	H	H	H
A1463	CH3-		CH3-	H	H	H
A1464	CH3-		CH3-	H	H	H
A1465	CH3-		CH3-	H	H	H
A1466	CH3-		CH3-	H	H	H
A1467	CH3-		CH3-	H	H	H
A1468	CH3-		CH3-	H	H	H
A1469	CH3-		CH3-	H	H	H
A1470	CH3-		CH3-	H	H	H
A1471	CH3-		CH3-	H	H	H
A1472	CH3-		CH3-	H	H	H
A1473	CH3-		CH3-	H	H	H
A1474	CH3-		CH3-	H	H	H
A1475	CH3-		CH3-	H	H	H
A1476	CH3-		CH3-	H	H	H

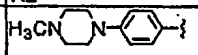
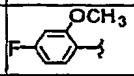
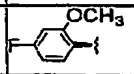
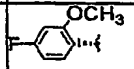
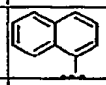
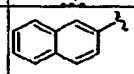
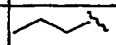
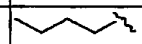
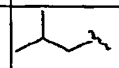
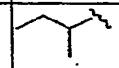
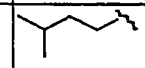
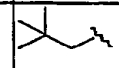
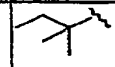
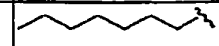
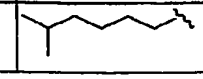
No.	R1	R2	R3	R4	R5	R6
A1477	CH3-		CH3-	H	H	H
A1478	CH3-		CH3-	H	H	H
A1479	CH3-		CH3-	H	H	H
A1480	CH3-		CH3-	H	H	H
A1481	CH3-		CH3-	H	H	H
A1482	CH3-		CH3-	H	H	H
A1483	CH3-		CH3-	H	H	H
A1484	CH3-		CH3-	H	H	H
A1485	CH3-		CH3-	H	H	H
A1486	CH3-		CH3-	H	H	H
A1487	CH3-		CH3-	H	H	H
A1488	CH3-		CH3-	H	H	H
A1489	CH3-		CH3-	H	H	H
A1490	CH3-		CH3-	H	H	H
A1491	CH3-		CH3-	H	H	H
A1492	CH3-		CH3-	H	H	H
A1493	CH3-		CH3-	H	H	H
A1494	CH3-		CH3-	H	H	H
A1495	CH3-		CH3-	H	H	H
A1496	CH3-		CH3-	H	H	H
A1497	CH3-		CH3-	H	H	H
A1498	CH3-	CH3-	H	H	CH3-	H

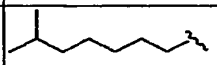
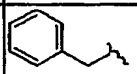
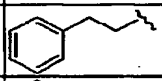
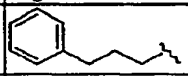
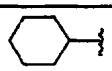
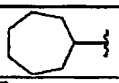
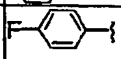
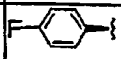
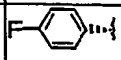
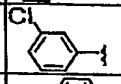
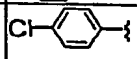
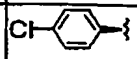
No.	R1	R2	R3	R4	R5	R6
A1499	CH3-	CH3CH2-	H	H	CH3-	H
A1500	CH3-		H	H	CH3-	H
A1501	CH3-		H	H	CH3-	H
A1502	CH3-		H	H	CH3-	H
A1503	CH3-		H	H	CH3-	H
A1504	CH3-		H	H	CH3-	H
A1505	CH3-		H	H	CH3-	H
A1506	CH3-		H	H	CH3-	H
A1507	CH3-		H	H	CH3-	H
A1508	CH3-		H	H	CH3-	H
A1509	CH3-		H	H	CH3-	H
A1510	CH3-		H	H	CH3-	H
A1511	CH3-		H	H	CH3-	H
A1512	CH3-		H	H	CH3-	H
A1513	CH3-		H	H	CH3-	H
A1514	CH3-	n-C8H17-	H	H	CH3-	H
A1515	CH3-		H	H	CH3-	H
A1516	CH3-		H	H	CH3-	H
A1517	CH3-		H	H	CH3-	H
A1518	CH3-		H	H	CH3-	H
A1519	CH3-		H	H	CH3-	H
A1520	CH3-		H	H	CH3-	H

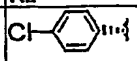
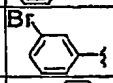
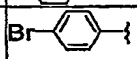
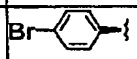
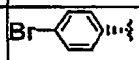
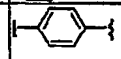
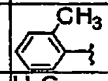
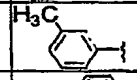
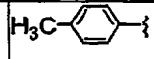
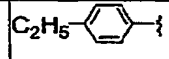
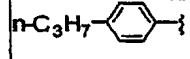
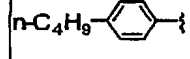
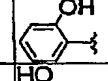
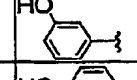
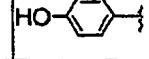
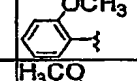
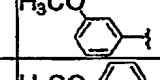
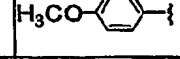
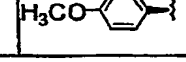
No.	R1	R2	R3	R4	R5	R6
A1521	CH3-		H	H	CH3-	H
A1522	CH3-		H	H	CH3-	H
A1523	CH3-		H	H	CH3-	H
A1524	CH3-		H	H	CH3-	H
A1525	CH3-		H	H	CH3-	H
A1526	CH3-		H	H	CH3-	H
A1627	CH3-		H	H	CH3-	H
A1528	CH3-		H	H	CH3-	H
A1529	CH3-		H	H	CH3-	H
A1530	CH3-		H	H	CH3-	H
A1531	CH3-		H	H	CH3-	H
A1532	CH3-		H	H	CH3-	H
A1533	CH3-		H	H	CH3-	H
A1534	CH3-		H	H	CH3-	H
A1535	CH3-		H	H	CH3-	H
A1536	CH3-		H	H	CH3-	H
A1537	CH3-		H	H	CH3-	H
A1538	CH3-		H	H	CH3-	H
A1539	CH3-		H	H	CH3-	H
A1540	CH3-		H	H	CH3-	H
A1541	CH3-		H	H	CH3-	H
A1542	CH3-		H	H	CH3-	H

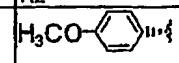
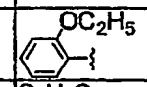
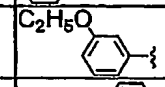
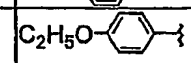
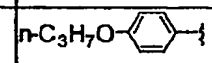
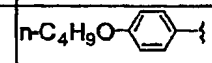
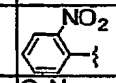
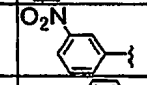
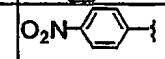
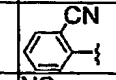
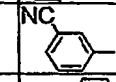
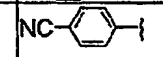
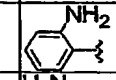
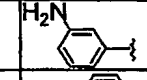
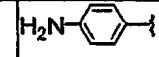
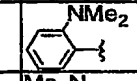
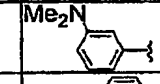
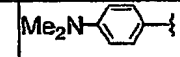
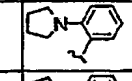
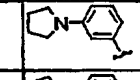
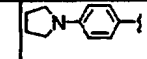
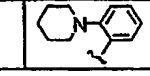
No.	R1	R2	R3	R4	R5	R6
A1543	CH3-		H	H	CH3-	H
A1544	CH3-		H	H	CH3-	H
A1545	CH3-		H	H	CH3-	H
A1546	CH3-		H	H	CH3-	H
A1547	CH3-		H	H	CH3-	H
A1548	CH3-		H	H	CH3-	H
A1549	CH3-		H	H	CH3-	H
A1550	CH3-		H	H	CH3-	H
A1551	CH3-		H	H	CH3-	H
A1552	CH3-		H	H	CH3-	H
A1553	CH3-		H	H	CH3-	H
A1554	CH3-		H	H	CH3-	H
A1555	CH3-		H	H	CH3-	H
A1556	CH3-		H	H	CH3-	H
A1557	CH3-		H	H	CH3-	H
A1558	CH3-		H	H	CH3-	H
A1559	CH3-		H	H	CH3-	H
A1560	CH3-		H	H	CH3-	H
A1561	CH3-		H	H	CH3-	H
A1562	CH3-		H	H	CH3-	H
A1563	CH3-		H	H	CH3-	H
A1564	CH3-		H	H	CH3-	H

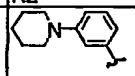
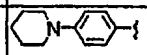
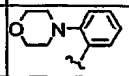
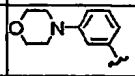
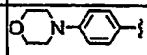
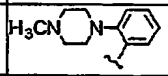
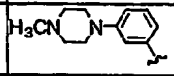
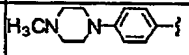
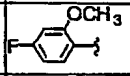
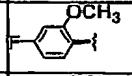
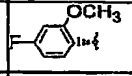
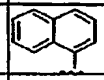
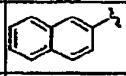
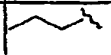
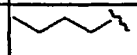
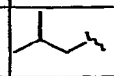
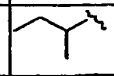
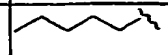
No.	R1	R2	R3	R4	R5	R6
A1565	CH3-		H	H	CH3-	H
A1566	CH3-		H	H	CH3-	H
A1567	CH3-		H	H	CH3-	H
A1568	CH3-		H	H	CH3-	H
A1569	CH3-		H	H	CH3-	H
A1570	CH3-		H	H	CH3-	H
A1571	CH3-		H	H	CH3-	H
A1572	CH3-		H	H	CH3-	H
A1573	CH3-		H	H	CH3-	H
A1574	CH3-		H	H	CH3-	H
A1575	CH3-		H	H	CH3-	H
A1576	CH3-		H	H	CH3-	H
A1577	CH3-		H	H	CH3-	H
A1578	CH3-		H	H	CH3-	H
A1579	CH3-		H	H	CH3-	H
A1580	CH3-		H	H	CH3-	H
A1581	CH3-		H	H	CH3-	H
A1582	CH3-		H	H	CH3-	H
A1583	CH3-		H	H	CH3-	H
A1584	CH3-		H	H	CH3-	H
A1585	CH3-		H	H	CH3-	H
A1586	CH3-		H	H	CH3-	H

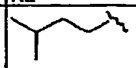
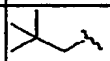
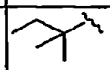
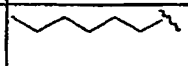
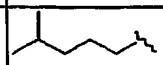
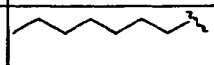
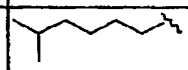
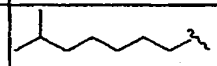
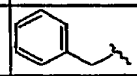
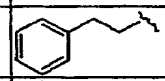
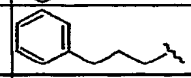
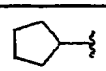
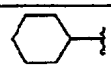
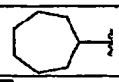
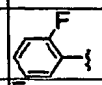
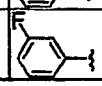
No.	R1	R2	R3	R4	R5	R6
A1587	CH3-		H	H	CH3-	H
A1588	CH3-		H	H	CH3-	H
A1589	CH3-		H	H	CH3-	H
A1590	CH3-		H	H	CH3-	H
A1591	CH3-		H	H	CH3-	H
A1592	CH3-		H	H	CH3-	H
A1593	CH3-	CH3-	H	H	CH3-	CH3-
A1594	CH3-	CH3CH2-	H	H	CH3-	CH3-
A1595	CH3-		H	H	CH3-	CH3-
A1596	CH3-		H	H	CH3-	CH3-
A1597	CH3-		H	H	CH3-	CH3-
A1598	CH3-		H	H	CH3-	CH3-
A1599	CH3-		H	H	CH3-	CH3-
A1600	CH3-		H	H	CH3-	CH3-
A1601	CH3-		H	H	CH3-	CH3-
A1602	CH3-		H	H	CH3-	CH3-
A1603	CH3-		H	H	CH3-	CH3-
A1604	CH3-		H	H	CH3-	CH3-
A1605	CH3-		H	H	CH3-	CH3-
A1606	CH3-		H	H	CH3-	CH3-
A1607	CH3-		H	H	CH3-	CH3-
A1608	CH3-		H	H	CH3-	CH3-

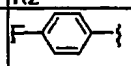
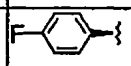
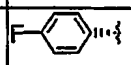
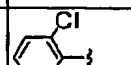
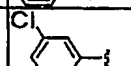
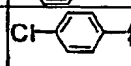
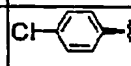
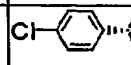
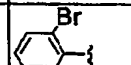
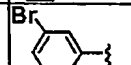
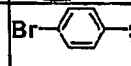
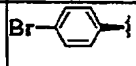
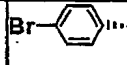
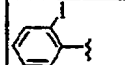
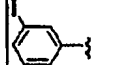
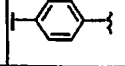
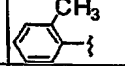
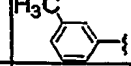
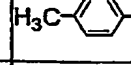
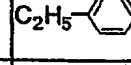
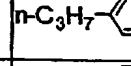
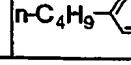
No.	R1	R2	R3	R4	R5	R6
A1609	CH3-	n-C8H17-	H	H	CH3-	CH3-
A1610	CH3-		H	H	CH3-	CH3-
A1611	CH3-		H	H	CH3-	CH3-
A1612	CH3-		H	H	CH3-	CH3-
A1613	CH3-		H	H	CH3-	CH3-
A1614	CH3-		H	H	CH3-	CH3-
A1615	CH3-		H	H	CH3-	CH3-
A1616	CH3-		H	H	CH3-	CH3-
A1617	CH3-		H	H	CH3-	CH3-
A1618	CH3-		H	H	CH3-	CH3-
A1619	CH3-		H	H	CH3-	CH3-
A1620	CH3-		H	H	CH3-	CH3-
A1621	CH3-		H	H	CH3-	CH3-
A1622	CH3-		H	H	CH3-	CH3-
A1623	CH3-		H	H	CH3-	CH3-
A1624	CH3-		H	H	CH3-	CH3-
A1625	CH3-		H	H	CH3-	CH3-
A1626	CH3-		H	H	CH3-	CH3-
A1627	CH3-		H	H	CH3-	CH3-
A1628	CH3-		H	H	CH3-	CH3-
A1629	CH3-		H	H	CH3-	CH3-
A1630	CH3-		H	H	CH3-	CH3-

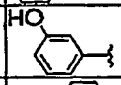
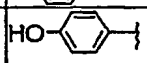
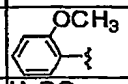
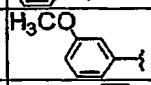
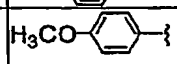
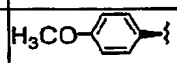
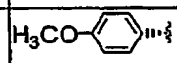
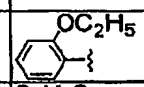
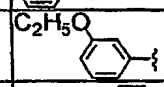
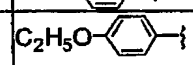
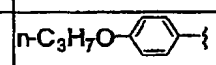
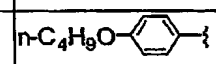
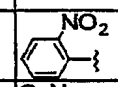
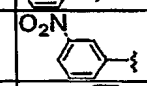
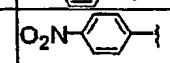
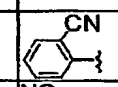
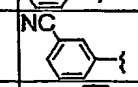
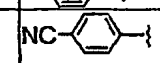
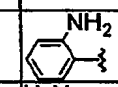
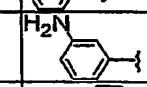
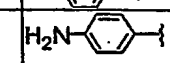
No.	R1	R2	R3	R4	R5	R6
A1631	CH3-		H	H	CH3-	CH3-
A1632	CH3-		H	H	CH3-	CH3-
A1633	CH3-		H	H	CH3-	CH3-
A1634	CH3-		H	H	CH3-	CH3-
A1635	CH3-		H	H	CH3-	CH3-
A1636	CH3-		H	H	CH3-	CH3-
A1637	CH3-		H	H	CH3-	CH3-
A1638	CH3-		H	H	CH3-	CH3-
A1639	CH3-		H	H	CH3-	CH3-
A1640	CH3-		H	H	CH3-	CH3-
A1641	CH3-		H	H	CH3-	CH3-
A1642	CH3-		H	H	CH3-	CH3-
A1643	CH3-		H	H	CH3-	CH3-
A1644	CH3-		H	H	CH3-	CH3-
A1645	CH3-		H	H	CH3-	CH3-
A1646	CH3-		H	H	CH3-	CH3-
A1647	CH3-		H	H	CH3-	CH3-
A1648	CH3-		H	H	CH3-	CH3-
A1649	CH3-		H	H	CH3-	CH3-
A1650	CH3-		H	H	CH3-	CH3-
A1651	CH3-		H	H	CH3-	CH3-
A1652	CH3-		H	H	CH3-	CH3-

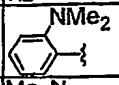
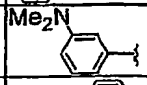
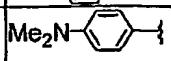
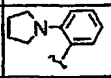
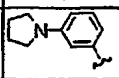
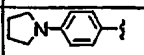
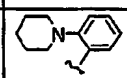
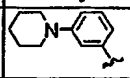
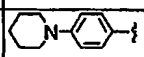
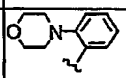
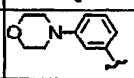
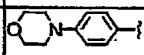
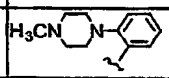
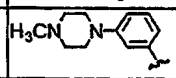
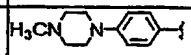
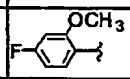
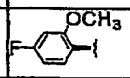
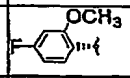
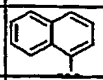
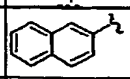
No.	R1	R2	R3	R4	R5	R6
A1653	CH3-		H	H	CH3-	CH3-
A1654	CH3-		H	H	CH3-	CH3-
A1655	CH3-		H	H	CH3-	CH3-
A1656	CH3-		H	H	CH3-	CH3-
A1657	CH3-		H	H	CH3-	CH3-
A1658	CH3-		H	H	CH3-	CH3-
A1659	CH3-		H	H	CH3-	CH3-
A1660	CH3-		H	H	CH3-	CH3-
A1661	CH3-		H	H	CH3-	CH3-
A1662	CH3-		H	H	CH3-	CH3-
A1663	CH3-		H	H	CH3-	CH3-
A1664	CH3-		H	H	CH3-	CH3-
A1665	CH3-		H	H	CH3-	CH3-
A1666	CH3-		H	H	CH3-	CH3-
A1667	CH3-		H	H	CH3-	CH3-
A1668	CH3-		H	H	CH3-	CH3-
A1669	CH3-		H	H	CH3-	CH3-
A1670	CH3-		H	H	CH3-	CH3-
A1671	CH3-		H	H	CH3-	CH3-
A1672	CH3-		H	H	CH3-	CH3-
A1673	CH3-		H	H	CH3-	CH3-
A1674	CH3-		H	H	CH3-	CH3-

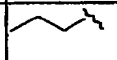
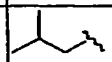
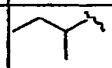
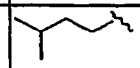
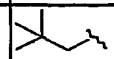
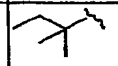
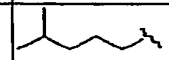
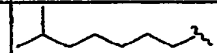
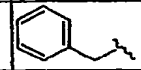
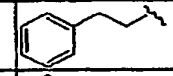
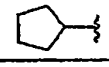
No.	R1	R2	R3	R4	R5	R6
A1675	CH3-		H	H	CH3-	CH3-
A1676	CH3-		H	H	CH3-	CH3-
A1677	CH3-		H	H	CH3-	CH3-
A1678	CH3-		H	H	CH3-	CH3-
A1679	CH3-		H	H	CH3-	CH3-
A1680	CH3-		H	H	CH3-	CH3-
A1681	CH3-		H	H	CH3-	CH3-
A1682	CH3-		H	H	CH3-	CH3-
A1683	CH3-		H	H	CH3-	CH3-
A1684	CH3-		H	H	CH3-	CH3-
A1685	CH3-		H	H	CH3-	CH3-
A1686	CH3-		H	H	CH3-	CH3-
A1687	CH3-		H	H	CH3-	CH3-
A1688	CH3-	CH3-	H	CH3-	CH3-	CH3-
A1689	CH3-	CH3CH2-	H	CH3-	CH3-	CH3-
A1690	CH3-		H	CH3-	CH3-	CH3-
A1691	CH3-		H	CH3-	CH3-	CH3-
A1692	CH3-		H	CH3-	CH3-	CH3-
A1693	CH3-		H	CH3-	CH3-	CH3-
A1694	CH3-		H	CH3-	CH3-	CH3-
A1695	CH3-		H	CH3-	CH3-	CH3-
A1696	CH3-		H	CH3-	CH3-	CH3-

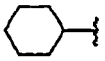
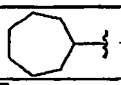
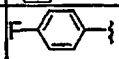
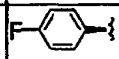
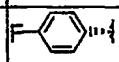
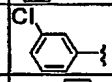
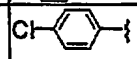
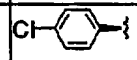
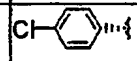
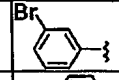
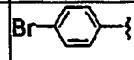
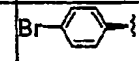
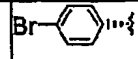
No.	R1	R2	R3	R4	R5	R6
A1697	CH3-		H	CH3-	CH3-	CH3-
A1698	CH3-		H	CH3-	CH3-	CH3-
A1699	CH3-		H	CH3-	CH3-	CH3-
A1700	CH3-		H	CH3-	CH3-	CH3-
A1701	CH3-		H	CH3-	CH3-	CH3-
A1702	CH3-		H	CH3-	CH3-	CH3-
A1703	CH3-		H	CH3-	CH3-	CH3-
A1704	CH3-	n-C8H17-	H	CH3-	CH3-	CH3-
A1705	CH3-		H	CH3-	CH3-	CH3-
A1706	CH3-		H	CH3-	CH3-	CH3-
A1707	CH3-		H	CH3-	CH3-	CH3-
A1708	CH3-		H	CH3-	CH3-	CH3-
A1709	CH3-		H	CH3-	CH3-	CH3-
A1710	CH3-		H	CH3-	CH3-	CH3-
A1711	CH3-		H	CH3-	CH3-	CH3-
A1712	CH3-		H	CH3-	CH3-	CH3-
A1713	CH3-		H	CH3-	CH3-	CH3-
A1714	CH3-		H	CH3-	CH3-	CH3-
A1715	CH3-		H	CH3-	CH3-	CH3-
A1716	CH3-		H	CH3-	CH3-	CH3-
A1717	CH3-		H	CH3-	CH3-	CH3-
A1718	CH3-		H	CH3-	CH3-	CH3-

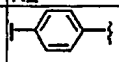
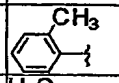
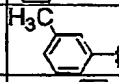
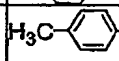
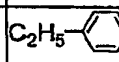
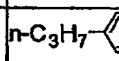
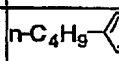
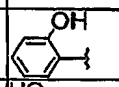
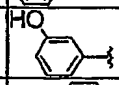
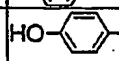
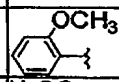
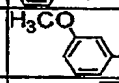
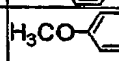
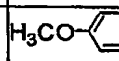
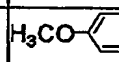
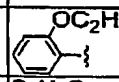
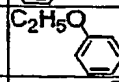
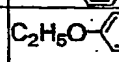
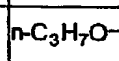
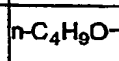
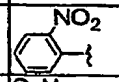
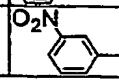
No.	R1	R2	R3	R4	R5	R6
A1719	CH3-		H	CH3-	CH3-	CH3-
A1720	CH3-		H	CH3-	CH3-	CH3-
A1721	CH3-		H	CH3-	CH3-	CH3-
A1722	CH3-		H	CH3-	CH3-	CH3-
A1723	CH3-		H	CH3-	CH3-	CH3-
A1724	CH3-		H	CH3-	CH3-	CH3-
A1725	CH3-		H	CH3-	CH3-	CH3-
A1726	CH3-		H	CH3-	CH3-	CH3-
A1727	CH3-		H	CH3-	CH3-	CH3-
A1728	CH3-		H	CH3-	CH3-	CH3-
A1729	CH3-		H	CH3-	CH3-	CH3-
A1730	CH3-		H	CH3-	CH3-	CH3-
A1731	CH3-		H	CH3-	CH3-	CH3-
A1732	CH3-		H	CH3-	CH3-	CH3-
A1733	CH3-		H	CH3-	CH3-	CH3-
A1734	CH3-		H	CH3-	CH3-	CH3-
A1735	CH3-		H	CH3-	CH3-	CH3-
A1736	CH3-		H	CH3-	CH3-	CH3-
A1737	CH3-		H	CH3-	CH3-	CH3-
A1738	CH3-		H	CH3-	CH3-	CH3-
A1739	CH3-		H	CH3-	CH3-	CH3-
A1740	CH3-		H	CH3-	CH3-	CH3-

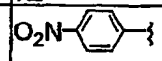
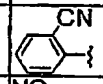
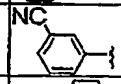
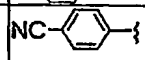
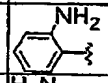
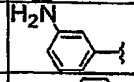
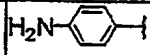
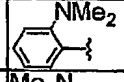
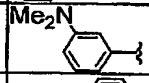
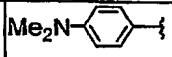
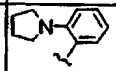
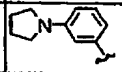
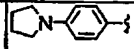
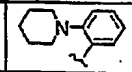
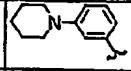
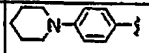
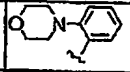
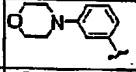
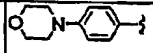
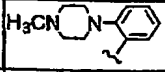
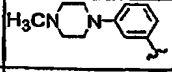
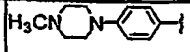
No.	R1	R2	R3	R4	R5	R6
A1741	CH3-		H	CH3-	CH3-	CH3-
A1742	CH3-		H	CH3-	CH3-	CH3-
A1743	CH3-		H	CH3-	CH3-	CH3-
A1744	CH3-		H	CH3-	CH3-	CH3-
A1745	CH3-		H	CH3-	CH3-	CH3-
A1746	CH3-		H	CH3-	CH3-	CH3-
A1747	CH3-		H	CH3-	CH3-	CH3-
A1748	CH3-		H	CH3-	CH3-	CH3-
A1749	CH3-		H	CH3-	CH3-	CH3-
A1750	CH3-		H	CH3-	CH3-	CH3-
A1751	CH3-		H	CH3-	CH3-	CH3-
A1752	CH3-		H	CH3-	CH3-	CH3-
A1753	CH3-		H	CH3-	CH3-	CH3-
A1754	CH3-		H	CH3-	CH3-	CH3-
A1755	CH3-		H	CH3-	CH3-	CH3-
A1756	CH3-		H	CH3-	CH3-	CH3-
A1757	CH3-		H	CH3-	CH3-	CH3-
A1758	CH3-		H	CH3-	CH3-	CH3-
A1759	CH3-		H	CH3-	CH3-	CH3-
A1760	CH3-		H	CH3-	CH3-	CH3-
A1761	CH3-		H	CH3-	CH3-	CH3-
A1762	CH3-		H	CH3-	CH3-	CH3-

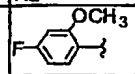
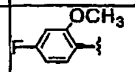
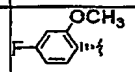
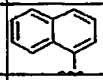
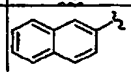
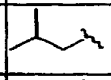
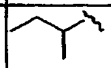
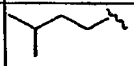
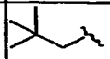
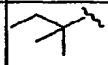
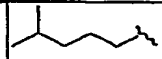
No.	R1	R2	R3	R4	R5	R6
A1763	CH3-		H	CH3-	CH3-	CH3-
A1764	CH3-		H	CH3-	CH3-	CH3-
A1765	CH3-		H	CH3-	CH3-	CH3-
A1766	CH3-		H	CH3-	CH3-	CH3-
A1767	CH3-		H	CH3-	CH3-	CH3-
A1768	CH3-		H	CH3-	CH3-	CH3-
A1769	CH3-		H	CH3-	CH3-	CH3-
A1770	CH3-		H	CH3-	CH3-	CH3-
A1771	CH3-		H	CH3-	CH3-	CH3-
A1772	CH3-		H	CH3-	CH3-	CH3-
A1773	CH3-		H	CH3-	CH3-	CH3-
A1774	CH3-		H	CH3-	CH3-	CH3-
A1775	CH3-		H	CH3-	CH3-	CH3-
A1776	CH3-		H	CH3-	CH3-	CH3-
A1777	CH3-		H	CH3-	CH3-	CH3-
A1778	CH3-		H	CH3-	CH3-	CH3-
A1779	CH3-		H	CH3-	CH3-	CH3-
A1780	CH3-		H	CH3-	CH3-	CH3-
A1781	CH3-		H	CH3-	CH3-	CH3-
A1782	CH3-		H	CH3-	CH3-	CH3-
A1783	CH3CH2-	CH3-	H	H	H	H
A1784	CH3CH2-	CH3CH2-	H	H	H	H

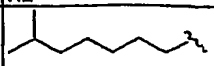
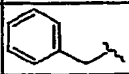
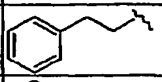
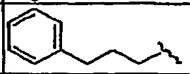
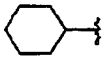
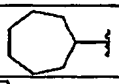
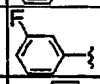
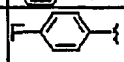
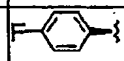
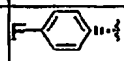
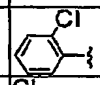
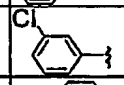
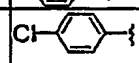
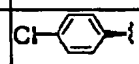
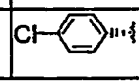
No.	R1	R2	R3	R4	R5	R6
A1785	CH3CH2-		H	H	H	H
A1786	CH3CH2-		H	H	H	H
A1787	CH3CH2-		H	H	H	H
A1788	CH3CH2-		H	H	H	H
A1789	CH3CH2-		H	H	H	H
A1790	CH3CH2-		H	H	H	H
A1791	CH3CH2-		H	H	H	H
A1792	CH3CH2-		H	H	H	H
A1793	CH3CH2-		H	H	H	H
A1794	CH3CH2-		H	H	H	H
A1795	CH3CH2-		H	H	H	H
A1796	CH3CH2-		H	H	H	H
A1797	CH3CH2-		H	H	H	H
A1798	CH3CH2-		H	H	H	H
A1799	CH3CH2-	n-C8H17-	H	H	H	H
A1800	CH3CH2-		H	H	H	H
A1801	CH3CH2-		H	H	H	H
A1802	CH3CH2-		H	H	H	H
A1803	CH3CH2-		H	H	H	H
A1804	CH3CH2-		H	H	H	H
A1805	CH3CH2-		H	H	H	H
A1806	CH3CH2-		H	H	H	H

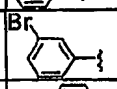
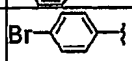
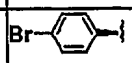
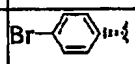
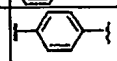
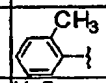
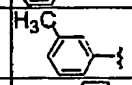
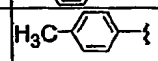
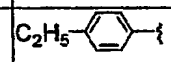
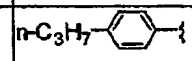
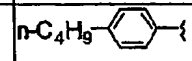
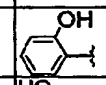
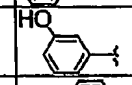
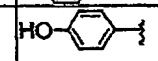
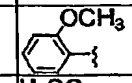
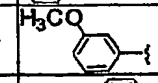
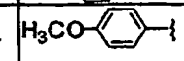
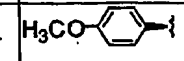
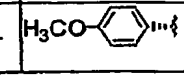
No.	R1	R2	R3	R4	R5	R6
A1807	CH3CH2-		H	H	H	H
A1808	CH3CH2-		H	H	H	H
A1809	CH3CH2-		H	H	H	H
A1810	CH3CH2-		H	H	H	H
A1811	CH3CH2-		H	H	H	H
A1812	CH3CH2-		H	H	H	H
A1813	CH3CH2-		H	H	H	H
A1814	CH3CH2-		H	H	H	H
A1815	CH3CH2-		H	H	H	H
A1816	CH3CH2-		H	H	H	H
A1817	CH3CH2-		H	H	H	H
A1818	CH3CH2-		H	H	H	H
A1819	CH3CH2-		H	H	H	H
A1820	CH3CH2-		H	H	H	H
A1821	CH3CH2-		H	H	H	H
A1822	CH3CH2-		H	H	H	H
A1823	CH3CH2-		H	H	H	H
A1824	CH3CH2-		H	H	H	H
A1825	CH3CH2-		H	H	H	H
A1826	CH3CH2-		H	H	H	H
A1827	CH3CH2-		H	H	H	H
A1828	CH3CH2-		H	H	H	H

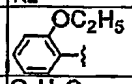
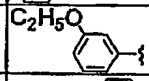
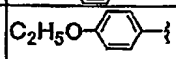
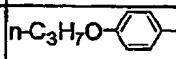
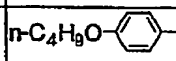
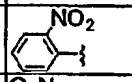
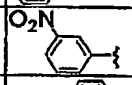
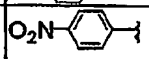
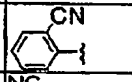
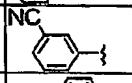
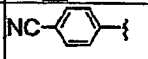
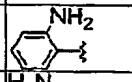
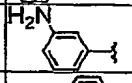
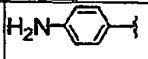
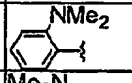
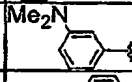
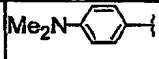
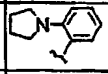
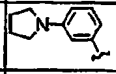
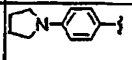
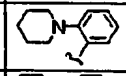
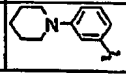
No.	R1	R2	R3	R4	R5	R6
A1829	CH3CH2-		H	H	H	H
A1830	CH3CH2-		H	H	H	H
A1831	CH3CH2-		H	H	H	H
A1832	CH3CH2-		H	H	H	H
A1833	CH3CH2-		H	H	H	H
A1834	CH3CH2-		H	H	H	H
A1835	CH3CH2-		H	H	H	H
A1836	CH3CH2-		H	H	H	H
A1837	CH3CH2-		H	H	H	H
A1838	CH3CH2-		H	H	H	H
A1839	CH3CH2-		H	H	H	H
A1840	CH3CH2-		H	H	H	H
A1841	CH3CH2-		H	H	H	H
A1842	CH3CH2-		H	H	H	H
A1843	CH3CH2-		H	H	H	H
A1844	CH3CH2-		H	H	H	H
A1845	CH3CH2-		H	H	H	H
A1846	CH3CH2-		H	H	H	H
A1847	CH3CH2-		H	H	H	H
A1848	CH3CH2-		H	H	H	H
A1849	CH3CH2-		H	H	H	H
A1850	CH3CH2-		H	H	H	H

No.	R1	R2	R3	R4	R5	R6
A1851	CH3CH2-		H	H	H	H
A1852	CH3CH2-		H	H	H	H
A1853	CH3CH2-		H	H	H	H
A1854	CH3CH2-		H	H	H	H
A1855	CH3CH2-		H	H	H	H
A1856	CH3CH2-		H	H	H	H
A1857	CH3CH2-		H	H	H	H
A1858	CH3CH2-		H	H	H	H
A1859	CH3CH2-		H	H	H	H
A1860	CH3CH2-		H	H	H	H
A1861	CH3CH2-		H	H	H	H
A1862	CH3CH2-		H	H	H	H
A1863	CH3CH2-		H	H	H	H
A1864	CH3CH2-		H	H	H	H
A1865	CH3CH2-		H	H	H	H
A1866	CH3CH2-		H	H	H	H
A1867	CH3CH2-		H	H	H	H
A1868	CH3CH2-		H	H	H	H
A1869	CH3CH2-		H	H	H	H
A1870	CH3CH2-		H	H	H	H
A1871	CH3CH2-		H	H	H	H
A1872	CH3CH2-		H	H	H	H

No.	R1	R2	R3	R4	R5	R6
A1873	CH3CH2-		H	H	H	H
A1874	CH3CH2-		H	H	H	H
A1875	CH3CH2-		H	H	H	H
A1876	CH3CH2-		H	H	H	H
A1877	CH3CH2-		H	H	H	H
A1878	CH3CH2-	CH3-	H	CH3-	H	H
A1879	CH3CH2-	CH3CH2-	H	CH3-	H	H
A1880	CH3CH2-		H	CH3-	H	H
A1881	CH3CH2-		H	CH3-	H	H
A1882	CH3CH2-		H	CH3-	H	H
A1883	CH3CH2-		H	CH3-	H	H
A1884	CH3CH2-		H	CH3-	H	H
A1885	CH3CH2-		H	CH3-	H	H
A1886	CH3CH2-		H	CH3-	H	H
A1887	CH3CH2-		H	CH3-	H	H
A1888	CH3CH2-		H	CH3-	H	H
A1889	CH3CH2-		H	CH3-	H	H
A1890	CH3CH2-		H	CH3-	H	H
A1891	CH3CH2-		H	CH3-	H	H
A1892	CH3CH2-		H	CH3-	H	H
A1893	CH3CH2-		H	CH3-	H	H
A1894	CH3CH2-	n-C8H17-	H	CH3-	H	H

No.	R1	R2	R3	R4	R5	R6
A1895	CH3CH2-		H	CH3-	H	H
A1896	CH3CH2-		H	CH3-	H	H
A1897	CH3CH2-		H	CH3-	H	H
A1898	CH3CH2-		H	CH3-	H	H
A1899	CH3CH2-		H	CH3-	H	H
A1900	CH3CH2-		H	CH3-	H	H
A1901	CH3CH2-		H	CH3-	H	H
A1902	CH3CH2-		H	CH3-	H	H
A1903	CH3CH2-		H	CH3-	H	H
A1904	CH3CH2-		H	CH3-	H	H
A1905	CH3CH2-		H	CH3-	H	H
A1906	CH3CH2-		H	CH3-	H	H
A1907	CH3CH2-		H	CH3-	H	H
A1908	CH3CH2-		H	CH3-	H	H
A1909	CH3CH2-		H	CH3-	H	H
A1910	CH3CH2-		H	CH3-	H	H
A1911	CH3CH2-		H	CH3-	H	H
A1912	CH3CH2-		H	CH3-	H	H
A1913	CH3CH2-		H	CH3-	H	H
A1914	CH3CH2-		H	CH3-	H	H
A1915	CH3CH2-		H	CH3-	H	H
A1916	CH3CH2-		H	CH3-	H	H

No.	R1	R2	R3	R4	R5	R6
A1917	CH3CH2-		H	CH3-	H	H
A1918	CH3CH2-		H	CH3-	H	H
A1919	CH3CH2-		H	CH3-	H	H
A1920	CH3CH2-		H	CH3-	H	H
A1921	CH3CH2-		H	CH3-	H	H
A1922	CH3CH2-		H	CH3-	H	H
A1923	CH3CH2-		H	CH3-	H	H
A1924	CH3CH2-		H	CH3-	H	H
A1925	CH3CH2-		H	CH3-	H	H
A1926	CH3CH2-		H	CH3-	H	H
A1927	CH3CH2-		H	CH3-	H	H
A1928	CH3CH2-		H	CH3-	H	H
A1929	CH3CH2-		H	CH3-	H	H
A1930	CH3CH2-		H	CH3-	H	H
A1931	CH3CH2-		H	CH3-	H	H
A1932	CH3CH2-		H	CH3-	H	H
A1933	CH3CH2-		H	CH3-	H	H
A1934	CH3CH2-		H	CH3-	H	H
A1935	CH3CH2-		H	CH3-	H	H
A1936	CH3CH2-		H	CH3-	H	H
A1937	CH3CH2-		H	CH3-	H	H
A1938	CH3CH2-		H	CH3-	H	H

No.	R1	R2	R3	R4	R5	R6
A1939	CH3CH2-		H	CH3-	H	H
A1940	CH3CH2-		H	CH3-	H	H
A1941	CH3CH2-		H	CH3-	H	H
A1942	CH3CH2-		H	CH3-	H	H
A1943	CH3CH2-		H	CH3-	H	H
A1944	CH3CH2-		H	CH3-	H	H
A1945	CH3CH2-		H	CH3-	H	H
A1946	CH3CH2-		H	CH3-	H	H
A1947	CH3CH2-		H	CH3-	H	H
A1948	CH3CH2-		H	CH3-	H	H
A1949	CH3CH2-		H	CH3-	H	H
A1950	CH3CH2-		H	CH3-	H	H
A1951	CH3CH2-		H	CH3-	H	H
A1952	CH3CH2-		H	CH3-	H	H
A1953	CH3CH2-		H	CH3-	H	H
A1954	CH3CH2-		H	CH3-	H	H
A1955	CH3CH2-		H	CH3-	H	H
A1956	CH3CH2-		H	CH3-	H	H
A1957	CH3CH2-		H	CH3-	H	H
A1958	CH3CH2-		H	CH3-	H	H
A1959	CH3CH2-		H	CH3-	H	H
A1960	CH3CH2-		H	CH3-	H	H

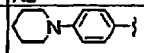
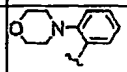
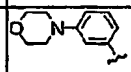
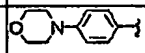
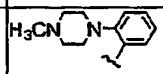
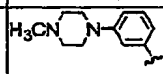
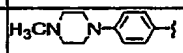
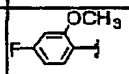
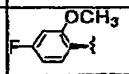
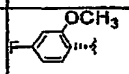
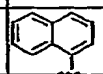
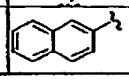
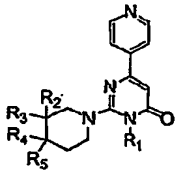
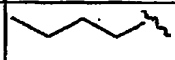
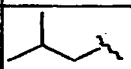
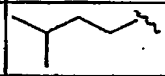
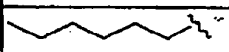
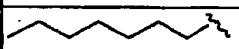
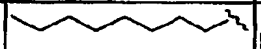
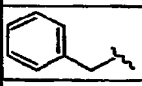
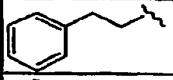
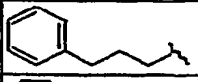
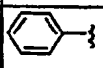
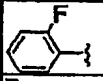
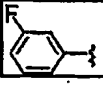
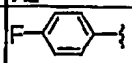
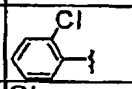
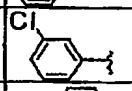
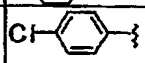
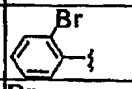
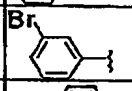
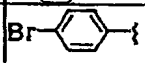
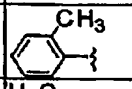
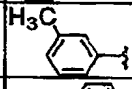
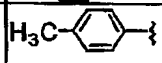
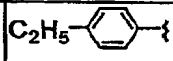
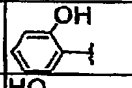
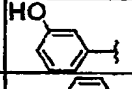
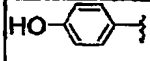
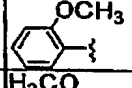
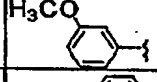
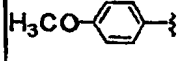
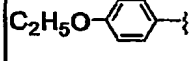
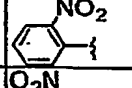
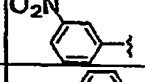
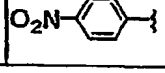
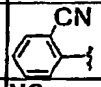
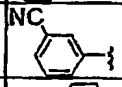
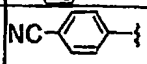
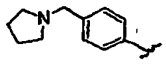
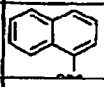
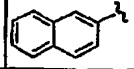
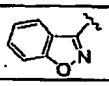
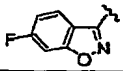
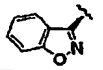
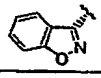
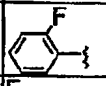
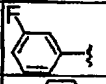
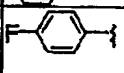
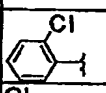
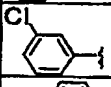
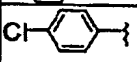
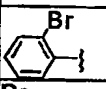
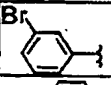
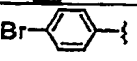
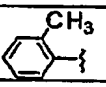
No.	R1	R2	R3	R4	R5	R6
A1961	CH3CH2-		H	CH3-	H	H
A1962	CH3CH2-		H	CH3-	H	H
A1963	CH3CH2-		H	CH3-	H	H
A1964	CH3CH2-		H	CH3-	H	H
A1965	CH3CH2-		H	CH3-	H	H
A1966	CH3CH2-		H	CH3-	H	H
A1967	CH3CH2-		H	CH3-	H	H
A1968	CH3CH2-		H	CH3-	H	H
A1969	CH3CH2-		H	CH3-	H	H
A1970	CH3CH2-		H	CH3-	H	H
A1971	CH3CH2-		H	CH3-	H	H
A1972	CH3CH2-		H	CH3-	H	H

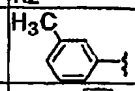
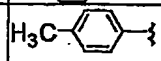
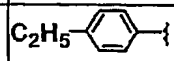
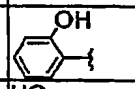
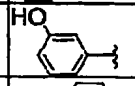
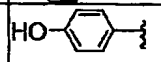
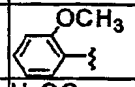
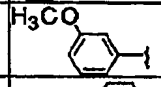
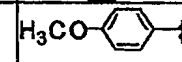
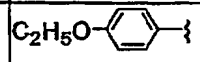
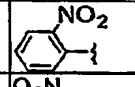
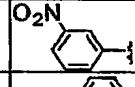
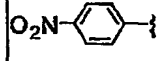
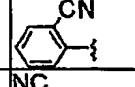
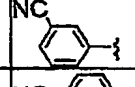
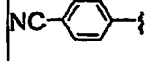
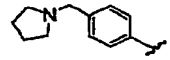
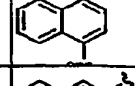
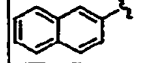
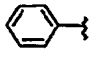
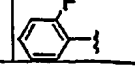
Table-2

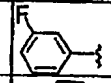
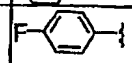
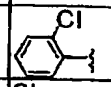
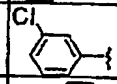
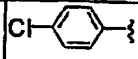
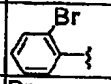
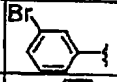
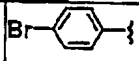
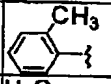
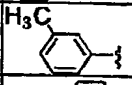
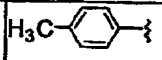
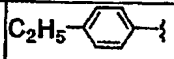
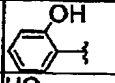
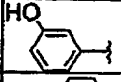
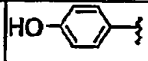
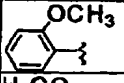
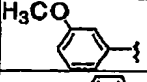
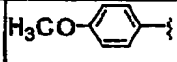
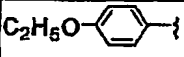
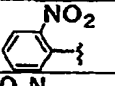
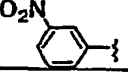


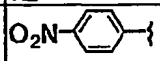
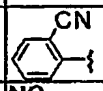
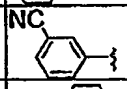
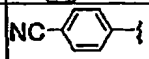
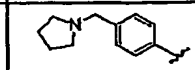
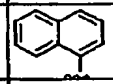
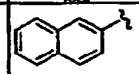
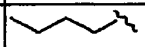
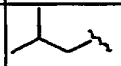
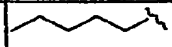
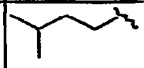
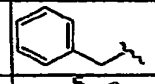
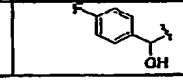
No	R1	R2	R3	R4	R5
B1	CH3-	CH3-	H	H	H
B2	CH3-	CH3CH2-	H	H	H
B3	CH3-		H	H	H
B4	CH3-		H	H	H
B5	CH3-		H	H	H
B6	CH3-		H	H	H
B7	CH3-		H	H	H
B8	CH3-		H	H	H
B9	CH3-		H	H	H
B10	CH3-		H	H	H
B11	CH3-		H	H	H
B12	CH3-		H	H	H
B13	CH3-		H	H	H
B14	CH3-		H	H	H
B15	CH3-		H	H	H
B16	CH3-		H	H	H
B17	CH3-		H	H	H
B18	CH3-		H	H	H

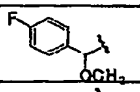
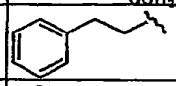
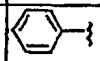
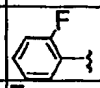
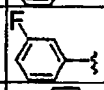
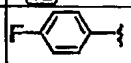
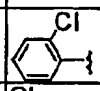
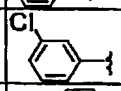
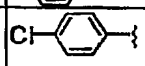
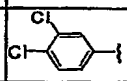
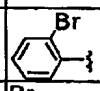
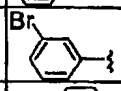
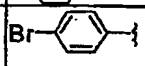
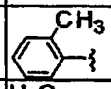
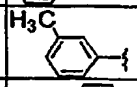
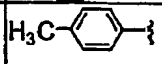
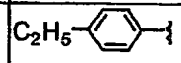
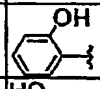
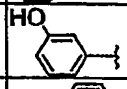
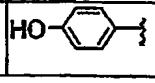
No	R1	R2	R3	R4	R5
B19	CH3-		H	H	H
B20	CH3-		H	H	H
B21	CH3-		H	H	H
B22	CH3-		H	H	H
B23	CH3-		H	H	H
B24	CH3-		H	H	H
B25	CH3-		H	H	H
B26	CH3-		H	H	H
B27	CH3-		H	H	H
B28	CH3-		H	H	H
B29	CH3-		H	H	H
B30	CH3-		H	H	H
B31	CH3-		H	H	H
B32	CH3-		H	H	H
B33	CH3-		H	H	H
B34	CH3-		H	H	H
B35	CH3-		H	H	H
B36	CH3-		H	H	H
B37	CH3-		H	H	H
B38	CH3-		H	H	H
B39	CH3-		H	H	H

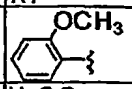
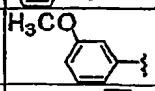
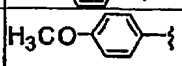
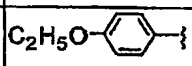
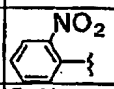
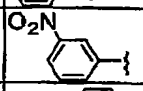
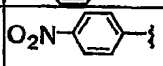
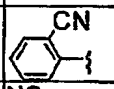
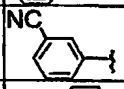
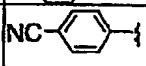
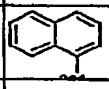
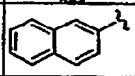
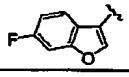
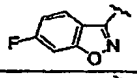
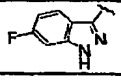
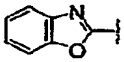
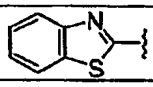
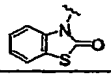
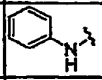
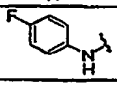
No	R1	R2	R3	R4	R5
B40	CH3-		H	H	H
B41	CH3-		H	H	H
B42	CH3-		H	H	H
B43	CH3-		H	H	H
B44	CH3-		H	H	H
B45	CH3-		H	H	H
B46	CH3-		H	H	H
B47	CH3-		H	H	H
B48	CH3-		H	H	H
B49	CH3-		H	H	H
B50	CH3-		OH	H	H
B51	CH3-		OH	H	H
B52	CH3-		OH	H	H
B53	CH3-		OH	H	H
B54	CH3-		OH	H	H
B55	CH3-		OH	H	H
B56	CH3-		OH	H	H
B57	CH3-		OH	H	H
B58	CH3-		OH	H	H
B59	CH3-		OH	H	H
B60	CH3-		OH	H	H

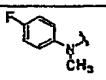
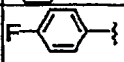
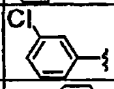
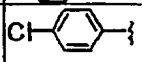
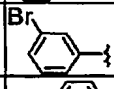
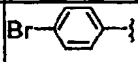
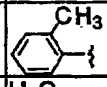
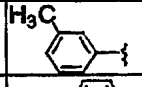
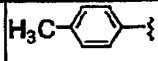
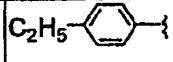
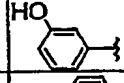
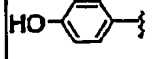
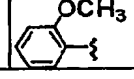
No	R1	R2	R3	R4	R5
B61	CH3-		OH	H	H
B62	CH3-		OH	H	H
B63	CH3-		OH	H	H
B64	CH3-		OH	H	H
B65	CH3-		OH	H	H
B66	CH3-		OH	H	H
B67	CH3-		OH	H	H
B68	CH3-		OH	H	H
B69	CH3-		OH	H	H
B70	CH3-		OH	H	H
B71	CH3-		OH	H	H
B72	CH3-		OH	H	H
B73	CH3-		OH	H	H
B74	CH3-		OH	H	H
B75	CH3-		OH	H	H
B76	CH3-		OH	H	H
B77	CH3-		OH	H	H
B78	CH3-		OH	H	H
B79	CH3-		OH	H	H
B80	CH3-		CN	H	H
B81	CH3-		CN	H	H

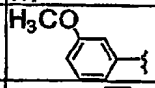
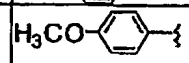
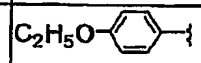
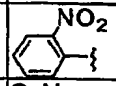
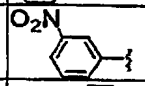
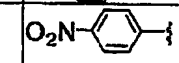
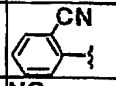
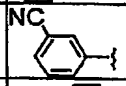
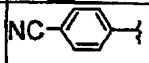
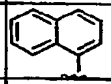
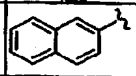
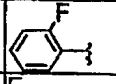
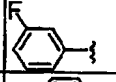
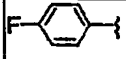
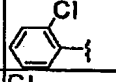
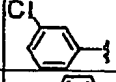
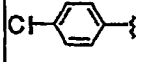
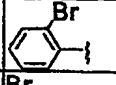
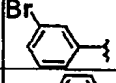
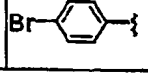
No	R1	R2	R3	R4	R5
B82	CH3-		CN	H	H
B83	CH3-		CN	H	H
B84	CH3-		CN	H	H
B85	CH3-		CN	H	H
B86	CH3-		CN	H	H
B87	CH3-		CN	H	H
B88	CH3-		CN	H	H
B89	CH3-		CN	H	H
B90	CH3-		CN	H	H
B91	CH3-		CN	H	H
B92	CH3-		CN	H	H
B93	CH3-		CN	H	H
B94	CH3-		CN	H	H
B95	CH3-		CN	H	H
B96	CH3-		CN	H	H
B97	CH3-		CN	H	H
B98	CH3-		CN	H	H
B99	CH3-		CN	H	H
B100	CH3-		CN	H	H
B101	CH3-		CN	H	H
B102	CH3-		CN	H	H

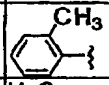
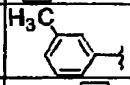
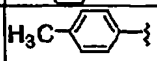
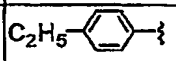
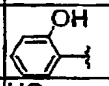
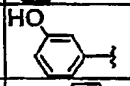
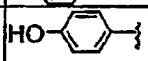
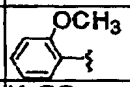
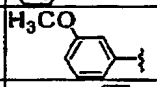
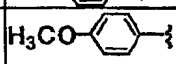
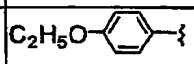
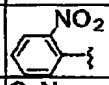
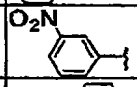
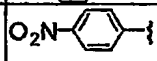
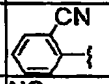
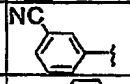
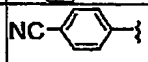
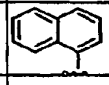
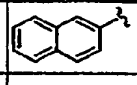
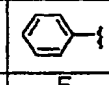
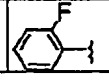
No	R1	R2	R3	R4	R5
B103	CH3-		CN	H	H
B104	CH3-		CN	H	H
B105	CH3-		CN	H	H
B106	CH3-		CN	H	H
B107	CH3-		CN	H	H
B108	CH3-		CN	H	H
B109	CH3-		CN	H	H
B110	CH3-	H	H	CH3-	H
B111	CH3-	H	H	CH3CH2-	H
B112	CH3-	H	H		H
B113	CH3-	H	H		H
B114	CH3-	H	H		H
B115	CH3-	H	H		H
B116	CH3-	H	H		H
B117	CH3-	H	H		H
B118	CH3-	H	H		H
B119	CH3-	H	H		H
B120	CH3-	H	H		H
B121	CH3-	H	H		H
B122	CH3-	H	H		H
B123	CH3-	H	H		H

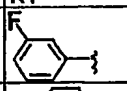
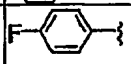
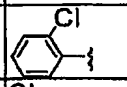
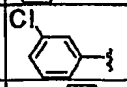
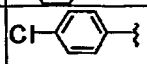
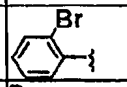
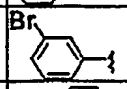
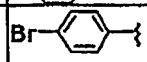
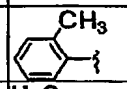
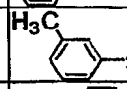
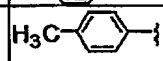
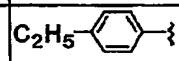
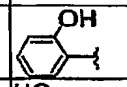
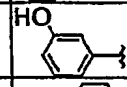
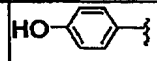
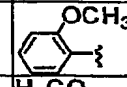
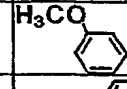
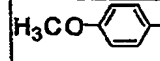
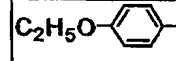
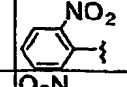
No	R1	R2	R3	R4	R5
B124	CH3-	H	H		H
B125	CH3-	H	H		H
B126	CH3-	H	H		H
B127	CH3-	H	H		H
B128	CH3-	H	H		H
B129	CH3-	H	H		H
B130	CH3-	H	H		H
B131	CH3-	H	H		H
B132	CH3-	H	H		H
B133	CH3-	H	H		H
B134	CH3-	H	H		H
B135	CH3-	H	H		H
B136	CH3-	H	H		H
B137	CH3-	H	H		H
B138	CH3-	H	H		H
B139	CH3-	H	H		H
B140	CH3-	H	H		H
B141	CH3-	H	H		H
B142	CH3-	H	H		H
B143	CH3-	H	H		H
B144	CH3-	H	H		H

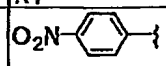
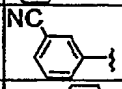
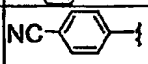
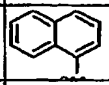
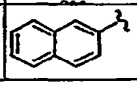
No	R1	R2	R3	R4	R5
B145	CH3-	H	H		H
B146	CH3-	H	H		H
B147	CH3-	H	H		H
B148	CH3-	H	H		H
B149	CH3-	H	H		H
B150	CH3-	H	H		H
B151	CH3-	H	H		H
B152	CH3-	H	H		H
B153	CH3-	H	H		H
B154	CH3-	H	H		H
B155	CH3-	H	H		H
B156	CH3-	H	H		H
B157	CH3-	H	H		H
B158	CH3-	H	H		H
B159	CH3-	H	H		H
B160	CH3-	H	H		H
B161	CH3-	H	H		H
B162	CH3-	H	H		H
B163	CH3-	H	H		H
B164	CH3-	H	H		H
B165	CH3-	H	H		H

No	R1	R2	R3	R4	R5
B166	CH3-	H	H		H
B167	CH3-	H	H		H
B168	CH3-	H	H		H
B169	CH3-	H	H		OH
B170	CH3-	H	H		OH
B171	CH3-	H	H		OH
B172	CH3-	H	H		OH
B173	CH3-	H	H		OH
B174	CH3-	H	H		OH
B175	CH3-	H	H		OH
B176	CH3-	H	H		OH
B177	CH3-	H	H		OH
B178	CH3-	H	H		OH
B179	CH3-	H	H		OH
B180	CH3-	H	H		OH
B181	CH3-	H	H		OH
B182	CH3-	H	H		OH
B183	CH3-	H	H		OH
B184	CH3-	H	H		OH
B185	CH3-	H	H		OH
B186	CH3-	H	H		OH

No	R1	R2	R3	R4	R5
B187	CH3-	H	H		OH
B188	CH3-	H	H		OH
B189	CH3-	H	H		OH
B190	CH3-	H	H		OH
B191	CH3-	H	H		OH
B192	CH3-	H	H		OH
B193	CH3-	H	H		OH
B194	CH3-	H	H		OH
B195	CH3-	H	H		OH
B196	CH3-	H	H		OH
B197	CH3-	H	H		OH
B198	CH3-	H	H		CN
B199	CH3-	H	H		CN
B200	CH3-	H	H		CN
B201	CH3-	H	H		CN
B202	CH3-	H	H		CN
B203	CH3-	H	H		CN
B204	CH3-	H	H		CN
B205	CH3-	H	H		CN
B206	CH3-	H	H		CN
B207	CH3-	H	H		CN

No	R1	R2	R3	R4	R5
B208	CH3-	H	H		CN
B209	CH3-	H	H		CN
B210	CH3-	H	H		CN
B211	CH3-	H	H		CN
B212	CH3-	H	H		CN
B213	CH3-	H	H		CN
B214	CH3-	H	H		CN
B215	CH3-	H	H		CN
B216	CH3-	H	H		CN
B217	CH3-	H	H		CN
B218	CH3-	H	H		CN
B219	CH3-	H	H		CN
B220	CH3-	H	H		CN
B221	CH3-	H	H		CN
B222	CH3-	H	H		CN
B223	CH3-	H	H		CN
B224	CH3-	H	H		CN
B225	CH3-	H	H		CN
B226	CH3-	H	H		CN
B227	CH3-	H	H		
B228	CH3-	H	H		

No	R1	R2	R3	R4	R5
B229	CH3-	H	H		
B230	CH3-	H	H		
B231	CH3-	H	H		
B232	CH3-	H	H		
B233	CH3-	H	H		
B234	CH3-	H	H		
B235	CH3-	H	H		
B236	CH3-	H	H		
B237	CH3-	H	H		
B238	CH3-	H	H		
B239	CH3-	H	H		
B240	CH3-	H	H		
B241	CH3-	H	H		
B242	CH3-	H	H		
B243	CH3-	H	H		
B244	CH3-	H	H		
B245	CH3-	H	H		
B246	CH3-	H	H		
B247	CH3-	H	H		
B248	CH3-	H	H		
B249	CH3-	H	H		

No	R1	R2	R3	R4	R5
B250	CH3-	H	H		
B251	CH3-	H	H		
B252	CH3-	H	H		
B253	CH3-	H	H		
B254	CH3-	H	H		
B255	CH3-	H	H		

Particularly preferred compounds of the present invention represented by formula (I) include:

2-(3-Phenylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Fluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Fluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Fluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Chlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

(*S*)-2-(3-(4-Chlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

(*R*)-2-(3-(4-Chlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Chlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Chlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Bromophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Bromophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Bromophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Methylphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Methylphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Methylphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Cyanophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Cyanophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Cyanophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Ethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(5-Fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Fluoro-3-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

(*S*)-2-(3-(4-Fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

(*R*)-2-(3-(4-Fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Chloro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Fluoro-2-methylphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Fluoro-6-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(5-Bromo-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Bromo-4-fluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Chloro-6-fluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,4-Difluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,6-Difluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,6-Dichlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,4-Dimethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(3,4-Dimethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,5-Dimethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,6-Dimethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,4-Difluoro-6-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(5-Cyano-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

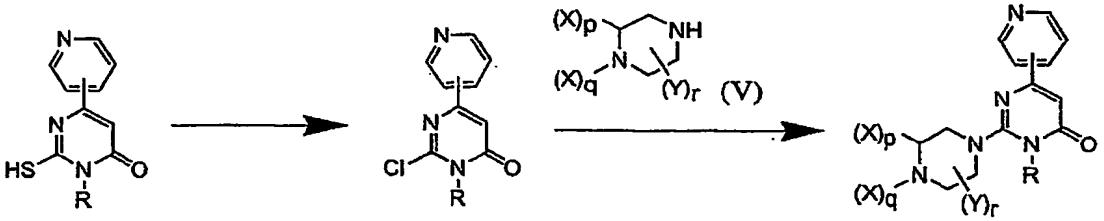
2-(3-(4-Cyano-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(1-Naphthyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(2-Naphthyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(2,3-Dihydrobenzofuran-7-yl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(Benzofuran-2-yl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
(*S*)-2-(3-(Benzofuran-2-yl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-(Pyrrolidin-1-yl-methyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-(Pyrrolidin-1-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(2-methoxy-4-(pyrrolidin-1-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(2-methoxy-5-(pyrrolidin-1-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-(Phenyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-(4-Fluorophenyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-(4-Methoxyphenyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-(2-Methoxyphenyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-(Morpholin-4-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-(4-Methylpiperazin-1-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(4-Phenylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(4-Benzylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(4-Benzoylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(4-(1,2-Benzisothiazol-3-yl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(4-Methyl-3-phenylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-Fluoro-2-methoxyphenyl)-4-methylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

(*S*)-2-(3-(4-Fluoro-2-methoxyphenyl)-4-methylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
(*R*)-2-(3-(4-Fluoro-2-methoxyphenyl)-4-methylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(4-Acetyl-3-(4-fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(4-Benzyl-3-(4-fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(4-Benzyl-3-(ethoxycarbonyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(4-methyl-3-(1-naphthyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(5,5-Dimethyl-3-(2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-Phenylpiperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-Fluorophenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(3-Fluorophenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(2-Fluorophenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-Chlorophenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-Bromophenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-Methoxyphenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(3-Methoxyphenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(2-Methoxyphenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-((Pyrrolidin-1-yl)methyl)phenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
(*S*)-2-(3-(4-(Pyrrolidin-1-yl-methyl)phenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
(*R*)-2-(3-(4-(Pyrrolidin-1-yl-methyl)phenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one; and
2-(3-Hydroxy-3-phenylpiperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one.
Salts of the aforementioned preferred compound, and solvates or hydrates of the aforementioned compounds and salts thereof are also preferred.

The 3-substituted-4-pyrimidone compounds represented by the aforementioned formula (I) can be prepared, for example, according to the method

explained below.



(III)　　(IV)　　(II)

(In the above scheme, definitions of R, X and Y are the same as those already described.)

The 2-thiopyrimidone represented by the above formula (III) is prepared easily by a modification of the method described in EP 354,179. The reaction may be carried out in the presence of a base such as sodium hydroxide, potassium hydroxide, sodium methoxide, sodium ethoxide, potassium tert-butoxide, sodium carbonate, sodium hydrogencarbonate, potassium carbonate, triethylamine, diisopropylethylamine, and 1,8-diazabicyclo[5,4,0]undec-7-en for 1 to 100 hours at a suitable temperature ranging from 0 ℃ to 200 ℃ under nitrogen or argon atmosphere or under ordinary air to afford the desired compound (III). Examples of a solvent for the reactions include, for example, alcoholic solvent such as methanol, ethanol, 1-propanol, isopropanol, tert-butanol, ethylene glycol, propylene glycol; etheric solvents such as diethyl ether, tert-butyl methyl ether, tetrahydrofuran, isopropyl ether; hydrocarbonic solvents such as benzene, toluene, xylene; halogenated hydrocarbonic solvents such as dichloromethane, chloroform, dichloroethane; aprotic polar solvents such as formamide, N,N-dimethylformamide, N,N-dimethylacetamide, N-methylpyrrolidone, dimethyl sulfoxide, sulfolane, hexamethylphosphoric triamide, water and the like. Generally, a single solvent or a mixture of two or more solvents may be used so as to be suitable to a base used.

Then the 2-thiopyrimidone derivative (III) is transformed into the 2-chloropyrimidone (IV) by a chlorinating agent. The reaction time and temperature depend on the chlorinating agent used. Examples of a chlorinating agent for the reactions include, for example, thionyl chloride, thionyl chloride and dimethylformamide, phosphorus oxychloride, phosphorus oxychloride and

dimethylformamide, oxalyl chloride, phosphorous oxychloride and dimethylformamide, and phosphorus pentachloride.

The amine represented by the above formula (V) may be prepared by a modification of the method described in Japanese Patent Unexamined Publication [Kokai] No. 52-139085/1977 or according to well-known methods of one skilled in the art.

Then the chloride derivative (IV) is allowed to react with the amine (V) or salts thereof in the presence of a base such as sodium hydroxide, potassium hydroxide, sodium methoxide, sodium ethoxide, sodium carbonate, sodium hydrogencarbonate, potassium carbonate, triethylamine, diisopropylethylamine, and 1,8-diazabicyclo[5,4,0]undec-7-en for 0.1 to 100 hours at a suitable temperature ranging from 0 ℃ to 200 ℃ under nitrogen or argon atmosphere or under ordinary air to afford the desired compound (II).

Examples of a solvent for the reactions include, for example, alcoholic solvent such as methanol, ethanol, 1-propanol, isopropanol, tert-butanol, ethylene glycol, propylene glycol; etheric solvents such as diethyl ether, tert-butyl methyl ether, tetrahydrofuran, isopropyl ether; hydrocarbonic solvents such as benzene, toluene, xylene; halogenated hydrocarbonic solvents such as dichloromethane, chloroform, dichloroethane; aprotic polar solvents such as formamide, N,N-dimethylformamide, N,N-dimethylacetamide, N-methylpyrrolidone, dimethyl sulfoxide, sulfolane, hexamethylphosphoric triamide, water and the like. Generally, a single solvent or a mixture of two or more solvents may be used so as to be suitable to a base used.

The compounds of the present invention have inhibitory activity against TPK1, and they inhibit TPK1 activity in neurodegenerative diseases like Alzheimer disease, thereby suppress the neurotoxicity of Aβ and the formation of PHF and inhibit the nerve cell death. Accordingly, the compounds of the present invention are useful as an active ingredient of a medicament which radically enables preventive and/or therapeutic treatment of Alzheimer disease. In addition, the compounds of the present invention are also useful as an active ingredient of a medicament for preventive and/or therapeutic treatment of ischemic cerebrovascular accidents, Down syndrome, cerebral bleeding due to solitary

cerebral amyloid angiopathy, progressive supranuclear palsy, subacute sclerosing panencephalitis, postencephalitic parkinsonism, pugilistic encephalosis, Guam parkinsonism-dementia complex, Lewy body disease, Pick's disease, corticobasal degeneration frontotemporal dementia, vascular dementia, acute stroke and traumatic injuries, brain and spinal cord trauma, peripheral neuropathies, retinopathies and glaucoma, non-insulin dependent diabetes (such as diabetes type II), and obesity, manic depressive illness, schizophrenia, alopecia, cancers such as breast cancer, non-small cell lung carcinoma, thyroid cancer, T or B-cell leukemia and several virus-induced tumors.

As the active ingredient of the medicament of the present invention, a substance may be used which is selected from the group consisting of the compound represented by the aforementioned formula (I) and pharmacologically acceptable salts thereof, and solvates thereof and hydrates thereof. The substance, per se, may be administered as the medicament of the present invention, however, it is desirable to administer the medicament in a form of a pharmaceutical composition which comprises the aforementioned substance as an active ingredient and one or more of pharmaceutical additives. As the active ingredient of the medicament of the present invention, two or more of the aforementioned substance may be used in combination. The above pharmaceutical composition may be supplemented with an active ingredient of other medicament for the treatment of, for example, Alzheimer disease, vascular dementia, acute stroke and traumatic injuries, brain and spinal cord trauma, peripheral neuropathies, retinopathies and glaucoma, non-insulin dependent diabetes (such as diabetes type II), and obesity, manic depressive illness, schizophrenia, alopecia, cancers such as breast cancer, non-small cell lung carcinoma, thyroid cancer, T or B-cell leukemia and several virus-induced tumors.

A type of the pharmaceutical composition is not particularly limited, and the composition may be provided as any formulation for oral or parenteral administration. For example, the pharmaceutical composition may be formulated, for example, in the form of pharmaceutical compositions for oral administration such as granules, fine granules, powders, hard capsules, soft capsules, syrups, emulsions, suspensions, solutions and the like, or in the form of pharmaceutical compositions for parenteral administrations such as injections for intravenous,

intramuscular, or subcutaneous administration, drip infusions, transdermal preparations, transmucosal preparations, nasal drops, inhalants, suppositories and the like. Injections or drip infusions may be prepared as powdery preparations such as in the form of lyophilized preparations, and may be used by dissolving just before use in an appropriate aqueous medium such as physiological saline. Sustained-release preparations such as those coated with a polymer may be directly administered intracerebrally.

Types of pharmaceutical additives used for the manufacture of the pharmaceutical composition, content rations of the pharmaceutical additives relative to the active ingredient, and methods for preparing the pharmaceutical composition may be appropriately chosen by those skilled in the art. Inorganic or organic substances, or solid or liquid substances may be used as pharmaceutical additives. Generally, the pharmaceutical additives may be incorporated in a ratio ranging from 1% by weight to 90% by weight based on the weight of an active ingredient.

Examples of excipients used for the preparation of solid pharmaceutical compositions include, for example, lactose, sucrose, starch, talc, cellulose, dextrin, kaolin, calcium carbonate and the like. For the preparation of liquid compositions for oral administration, a conventional inert diluent such as water or a vegetable oil may be used. The liquid composition may contain, in addition to the inert diluent, auxiliaries such as moistening agents, suspension aids, sweeteners, aromatics, colorants, and preservatives. The liquid composition may be filled in capsules made of an absorbable material such as gelatin. Examples of solvents or suspension mediums used for the preparation of compositions for parenteral administration, e.g. injections, suppositories, include water, propylene glycol, polyethylene glycol, benzyl alcohol, ethyl oleate, lecithin and the like. Examples of base materials used for suppositories include, for example, cacao butter, emulsified cacao butter, lauric lipid, witepsol.

Dose and frequency of administration of the medicament of the present invention are not particularly limited, and they may be appropriately chosen depending on conditions such as a purpose of preventive and/or therapeutic treatment, a type of a disease, the body weight or age of a patient, severity of a

disease and the like. Generally, a daily dose for oral administration to an adult may be 0.01 to 1,000 mg (the weight of an active ingredient), and the dose may be administered once a day or several times a day as divided portions, or once in several days. When the medicament is used as an injection, administrations may preferably be performed continuously or intermittently in a daily dose of 0.001 to 100 mg (the weight of an active ingredient) to an adult.

Examples

The present invention will be explained more specifically with reference to examples. However, the scope of the present invention is not limited to the following examples. The compound numbers in the examples correspond to those in the table above.

Reference Example 1: Synthesis of 2-mercapto-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one

A solution of ethyl 3-oxo-3-(4-pyridyl)propionate (29.0 g, 150 mmol), N-methyl thiourea (40.6 g, 450 mmol) and 1,8-diazabicyclo[5,4,0]-7-undecene (22.4 ml, 150 mmol) was refluxed for 4 hours and the solution of methanesulfonic acid (14.4 g, 150 mmol) in water (50 ml) was added after cooling by ice-water. The precipitate was washed with water, filtered and dried to give the title compound (23.7 g, 72%).

^{1}H-NMR (DMSO-d_6) δ : 3.58(s, 3H), 6.40(s, 1H), 7.72(dd, J=1.8, 4.5Hz, 2H), 8.73(dd, J=1.5, 4.8Hz, 2H), 12.92(brd, 1H).

Reference Example 2: Synthesis of 2-chloro-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one

Phosphorous oxychloride (26.11g, 170 mmol) was added to dimethyl-formamide(180 ml) and stirred 20 min. 2-Mercapto-3-methyl-6-(4-pyridyl)-pyrimidine-4-one (24.15 g, 110 mmol) was added to the solution and stirred 5 min and then stirred at 70℃ for 2 hours. Ethyl acetate (630 ml) was added to the ice-cooled solution and precipitate was collected by filtration after stirring for 20 minutes. After drying, the precipitate was dissolved in water (400 ml) and pH was

adjusted to 10 by using aqueous sodium hydroxide. The precipitate was washed with water, filtered and dried to give the title compound (18.82 g, 77%).
^{1}H-NMR ($CDCl_3$) δ : 3.72(s, 3H), 6.90(s, 1H), 7.78(dd, J=1.7, 4.5Hz, 2H), 8.75(dd, J=1.6, 4.5Hz, 2H).

Example 1: Synthesis of 2-(2-(4-fluoro-2-methoxyphenyl)piperazin-4-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one dihydrochloride

A solution of 2-bromo-5-fluoroanisole (11.8 g, 57.6 mmol) in tetrahydrofuran (60 ml) was dropped into the magnesium (1.40 g, 57.6 mmol) in refluxed tetrahydrofuran (32 ml) containing small amount of 1,2-dibromoethane and refluxed for 15 min. After addition of tetrehydrofuran (50 ml), the solution was cooled to −78 ℃ and diethyl oxalate (7.41 g, 50.7 mmol) in diethyl ether (50 ml) was dropped into the solution. After stirring at same temperature for 30 min, the solution was warmed to -10℃ and 1N aqueous hydrogen chloride (50 ml) and water were added. Organic layer was extracted with diethyl ether, washed with brine and dried over magnesium sulfate. After removal of the solvent under reduced pressure, purification of the residue by silica gel column chromatography (eluent: hexane/ethyl acetate = 5/2) gave ethyl 2-(4-fluoro-2-methoxyphenyl)-2-oxoacetate (6.80g, 59%)
^{1}H-NMR ($CDCl_3$) δ : 1.40(3H, t, J=7.1 Hz),3.87(3H, s), 4.89(2H, q, J=7.1Hz), 6.68(1H, d, J=10.5 Hz), 6.77-6.81(1H, m), 7.91-7.95(1H, m).

Ethylenediamine (0.60 g, 10.0 mmol) was added to a solution of ethyl 2-(4-fluoro-2-methoxyphenyl)-2-oxoacetate (2.26 g, 10.0 mmol) in ethanol(30 ml) and refluxed 4 hr. After removal of the solvent under reduced pressure, residue was washed with ethanol-diethyl ether to give 5,6-dihydro-3-(4-fluoro-2-methoxyphenyl)pyrazinone (1.76 g, 79%).
^{1}H-NMR ($CDCl_3$) δ : 3.50-3.56 (2H, m), 3.81 (3H, s), 3.88-3.92 (2H, m), 6.65(1H, d, J=11.0 Hz), 6.70-6.76 (1H, m), 6.89(1H, bs), 7.36-7.40(1H, m).

5,6-Dihydro-3-(4-fluoro-2-methoxyphenyl)pyrazinone was added to the solution of lithium aluminium hydride (0.46 g, 12 mmol) in diethyl ether (25 ml) and refluxed for 6 hr. Water (0.48 ml), 15% sodium hydroxide solution (0.48 ml) and again water (1.21 ml) were added to the ice-cooled solution and the precipitate was

filtered and washed with dichloromethane. Combined organic layer was evaporated to give 2-(4-fluoro-2-methoxyphenyl)piperazine (0.83 g, 99%).
^{1}H-NMR ($CDCl_3$) δ : 2.02(2H, s), 2.57-2.63 (1H, m), 2.80-2.89 (1H, m), 2.92-2.99 (2H, m), 3.06-3.12 (2H, m), 3.80(3H, s), 4.06 (1H, d, J=10.0 Hz), 6.56-6.65 (2H, m), 7.40 (1H, t, J=7.8 Hz).

2-Chloro-3-methyl-6-(4-pyridyl)-pyrimidin-4-one (222 mg, 1.0 mmol) was added to an ice-cooled solution of 2-(4-fluoro-2-methoxyphenyl)piperazine (210 mg, 1.0 mmol), triethylamine (0.15 ml, 1.1 mmol) in N,N-dimethylformamide (10 ml) and stirred at that temperature for 1 hr and then at room temperature for 2 hr. Next day, reaction was quenched by ice-water and the filtrate was washed with water and dried to give 2-(2-(4-fluoro-2-methoxyphenyl)piperazin-4-yl)-3-methyl-6-(4-pyridyl)-pyrimidin-4-one (246 mg, 62%).
^{1}H-NMR ($CDCl_3$) δ : 2.89-2.96 (1H, m), 3.19-3.31 (3H, m), 3.59 (3H, s), 3.62-3.74 (2H, m), 3.85 (3H, s), 4.39-4.44 (1H, m), 6.63-6.71 (2H, m), 6.67 (1H, s), 7.51-7.55 (1H, m), 7.81 (2H, dd, J=1.7, 4.6 Hz), 8.71 (2H, dd, J=1.7, 4.6 Hz).

4N Hydrogen chloride in 1,4-dioxane (0.4 ml) was added to the solution of 2-(2-(4-fluoro-2-methoxyphenyl)piperazin-4-yl)-3-methyl-6-(4-pyridyl)-pyrimidin-4-one (217 mg, 0.6 mmol) in dichloromethane (5 ml) and stirred for 15 min. After addition of diethyl ether, filtration and wash with diethyl ether and dryness gave the title compound (260 mg, quant.).

Example 2: Synthesis of 2-(2-(4-methoxyphenyl)-piperazine-4-yl)-3-methyl-6-(4-pyridyl)pyrimidin-4-one dihydrochloride

Dimethylslufoxide (50 ml) solution of 4-methyoxyphenacylbromide (9.94 g, 43.4 mmol) and water (1.6 ml, 88.8 mmol) were stirred at 50℃ for 2.5 hr. Water was added and the solution was extracted with ethyl acetate 3 times and washed with brine and then dried over sodium sulfate. Removal of the solvent gave 4-methoxyphenylglyoxal (8.30 g, quant.).
^{1}H-NMR (DMSO) δ : 3.84 (3H, s), 6.60-6.69 (1H, m), 7.04 (2H, d, J=8.8 Hz), 8.05 (2H, d, J=9.1 Hz).

Methanol (5 ml) solution of ethylenediamine (3.74 g, 62.29 mmol) was added to the ice-cooled solution of 4-methoxyphenylglyoxal (8.30 g, 45.5 mmol) in

methanol (100 ml) and tetrahydrofuran (50 ml) and stirred for 10 min. After cooling to 0℃, sodium tetrahydroborate (6.14 g, 162.2 mmol) and additional methanol (50 ml) was added and stirred overnight. After removal of the solvent, aqueous sodium hydroxide was added and was extracted with dichloromethane three times and washed with brine and dried over sodium sulfate. After removal of the solvent, purification of the residue by silica gel column chromatography (eluent; dichloromethane/ethanol/diethylamine = 20/2/1) gave 2-(4-methoxypheny)-piperazine (3.96 g, 45%).

^{1}H-NMR ($CDCl_3$) δ : 2.69(1H, dd, J=10.3, 11.9 Hz), 2.80-3.01(4H, m), 3.07-3.11 (1H, m), 3.68-3.73(1H, m), 3.79(3H, s), 6.84-6.88 (2H, m), 7.27-7.32 (2H, m).

A solution of triethylamine (697 mg, 6.9 mmol), 2-(4-methoxyphenyl)-piperazine (430 mg, tetrahydrofuran (10 ml) was stirred at room temperature for 30 min and at 50℃ for 3 hr. Solvent was removed under reduced pressure, and 1N aqueous sodium hydroxide solution was added to the residue and extracted by dichloromethane three times and washed with brine and dried over sodium sulfate. After removal of the solvent under reduced pressure, the residue was purified by silica gel column chromatography (eluent; dichloromethane/ethanol = 10/1) to give 2-(2-(4-methoxyphenyl)-piperazine-4-yl)-3-methyl-6-(4-pyridyl)pyrimidin-4-one (594 mg, 76%)

^{1}H-NMR ($CDCl_3$) δ : 3.02 (1H, dd, J=10.8, 12.7 Hz), 3.18-3.25 (3H, m), 3.55 (3H, s), 3.57-3.67 (2H, m), 3..82 (3H, s), 3.98(1H, dd, J=2.7, 10.8 Hz), 6.67 (1H, s), 6.92 (2H, d, J=8.7 Hz), 7.37 (2H, d, J=8.7 Hz), 7.80 (2H, d, J=6.0 Hz), 8.71 (2H, d, J=6.0 Hz).

4N Hydrogen chloride in ethyl acetate (5 ml) was added to the solution of 2-(2-(4-methoxyphenyl)-piperazine-4-yl)-3-methyl-6-(4-pyridyl)pyrimidin-4-one (594 mg, 1.6 mmol) in dichloromethane (5 ml) and stirred for 1 hr. Wash with ethyl acetate after removal of the solvent and dryness gave the title compound (683 mg, 96%).

Example 3: Synthesis of 2-(2-(4-chlorophenyl)-piperazine-4-yl)-3-methyl-6-(4-pyridyl)pyrimidin-4-one hydrochloride

Mixture of methyl (4-chlorophenyl)acetate (5.10 g, 27.6 mmol) and N-bromosuccinimide (5.16 g, 29 mmol) in carbon tetrachloride was treated by Hg

lamp. After filtration, solvent was removed under reduced pressure and the residue was dissolved in methanol. Ethylenediamine (2.03 ml, 30.4 mmol) and triethylamine (2.06 ml, 14.8 mmol) and di-tert-butyldicarbonate (3.10 ml, 13.5 mmol) were added to the solution of 3-(4-chlorophenyl)piperazin-2-one (2.60 g, 12.3 mmol) in dichloromethane (100 ml) and stirred. The reaction mixture was washed with 1N aqueous hydrogen chloride, water, brine and then dried. After removal of the solvent under reduced pressure, residue was purified by silica gel column chromatography to give 4-(tert-butoxycarbonyl)-3-(4-chlorophenyl)-piperazin-2-one.

^{1}H-NMR ($CDCl_3$) δ : 1.44 (9H, s), 3.21-3.32 (2H, m), 3.48 (1H, m), 4.04 (1H, brs), 5.66 (1H, brs), 7.10 (1H, brs), 7.30-7.38 (4H, m).

Solution of 4-(tert-butoxycarbonyl)-3-(4-chlorophenyl)-piperazin-2-one (500 mg, 1.6 mmol) and acetic acid (929 μl, 16 mmol) were added to a refluxed solution of sodium borohydride (608 mg, 16 mmol) in 1,4-dioxane (5 ml) and reflux was continued. The reaction was quenched by water and extracted with dichloromethane and washed with brine and dried. After removal of the solvent, residue was purified by silica gel column chromatography to give 4-(tert-butoxycarbonyl)-3-(4-chlorophenyl)piperazine (330 mg, 69%).

^{1}H-NMR ($CDCl_3$) δ : 1.46(9H, s), 2.76-2.99(3H, m), 3.13(1H, dd, J=13.0 Hz, 4.3 Hz), 3.45-3.49(2H, m), 3.92(1H, m), 5.15(1H, s), 7.27-7.33(4H, m).

A solution of 4-(tert-butoxycarbonyl)-3-(4-chlorophenyl)piperazine (330 mg, 1.1 mmol), 2-chloro-3-methyl-6-(4-pyridyl)pyrimidin-4-one (246 mg, 1.1 mmol) and triethylamine (170 μl, 1.22 mmol) in tetrahydrofuran were refluxed. Usual workup and purification by silica gel column chromatography gave 2-(1-(tert-butoxy-carbonyl)-2-(4-chlorophenyl)-piperazine-4-yl)-3-methyl-6-(4-pyridyl)pyrimidin-4-one (500 mg, 93%).

^{1}H-NMR ($CDCl_3$) δ : 1.45(9H, s), 3.09(1H, m), 3,35(3H, s), 3.40-3.63(4H, m), 3.96-4.19(2H, m), 5.43(1H, s), 6.68(1H, s), 7.23(2H, d, J=8.3 Hz), 7.32(2H, d, J=8.3 Hz), 7.78(2H, d, J=5.9 Hz), 8.72(2H, d, J=5.9 Hz).

4N Hydrogen chloride in ethyl acetate was added to the solution of 2-(1-(tert-butoxycarbonyl)-2-(4-chlorophenyl)-piperazine-4-yl)-3-methyl-6-(4-pyridyl)pyrimidin-4-one (500 mg, 1.0 mmol) in ethyl acetate and stirred. Filtration

and successive dryness gave the title compound (373mg, 79%).

Example 4: Synthesis of 3-methyl-2-(3-(4-1-pyrrolidinyl)methylphenyl)piperidine-1-yl)-6-(4-pyridyl)pyrimidin-4-one fumarate

Tetrakis(triphenylphosphine)palladium (0.65 g, 0.56 mmol), 4-formylphenylboric acid (2.81 g, 18.7 mmol), 2M aqueous sodium carbonate (18.7 ml, 37.4 mmol) and ethanol were added to the nitrogen-saturated solution of 3-bromopyridine (2.66 g, 16.8 mmol) in toluene and refluxed under nitrogen for 8 hrs. Water was added to the solution and extracted with ethyl acetate, washed with water and brine and dried. Solvents were removed under reduced pressure and the residue was purified by silica gel column chromatography (eluent; hexane/ethyl acetate = 1/1.5) to give 4-(3-pyridyl)benzaldehyde (0.78 g, 25%).

Methyl iodide (0.8 ml, 12.9 mmol) was added to a solution of 4-(3-pyridyl)benzaldehyde (0.78 g, 4.3 mmol) in dichloromethane and stirred 2 days. Additional methyl iodide (0.8 ml, 12.9 mmol) was added and stirred for 3 hr. After removal of the solvent, methanol was added to the residue and ice-cooled. Sodium tetrahydroborate (6.4 g, 17.0 mmol) was added to the solution and stirred for 1.5 hr with warming to room temperature. Organic solvents were removed under reduced pressure after addition of water and extracted with ethyl acetate, washed with water and brine and dried over sodium sulfate. After removal of the solvent under reduced pressure, residue was purified by silica gel chromatography (eluent ethyl acetate to methanol) to give 3-(4-hydroxymethylphenyl)-1-methyl-1,2,5,6-tetrahydropyridine (0.63 g, 72%).

Triethylamine (1.29 ml, 9.2 mmol), acetic anhydride (0.35 ml, 3.7 mmol) were added to a solution of 4-(hydroxymethyl)phenyl-1-methyl-1,2,5,6-tetrahydropyridine (0.63 g, 3.1 mmol) in dichloromethane and stirred overnight. Organic solvents were removed under reduced pressure after addition of water and extracted with ethyl acetate, washed with water and brine and dried over sodium sulfate. Removal of the solvent under reduced pressure gave 3-(4-acetozymethyl-phenyl)-1-methyl-1,2,5,6-tetrahydropyridine (0.67 g, 89%).

A solution of 3-(4-acetoxymethylphenyl)-1-methyl-1,2,5,6-tetrahydropyridine (0.67 g, 2.7 mmol) and 1-chloroethyl chloroformate (0.36 ml, 3.3

mmol) in dichloroethane was refluxed for 2 hr. Organic solvents were removed under reduced pressure after addition of water and extracted with ethyl acetate, washed with water and brine and dried over sodium sulfate. After removal of the solvent, methanol was added and refluxed for 1.5 hr. Tetrahydrofuran and water were added to the residue after removal of the solvent under reduced pressure and triethylamine (1.9 ml, 13.6 mmol) and di-tert-butyl dicarbonate (0.66 g, 3.0 mmol) were added and stirred. Organic solvents were removed under reduced pressure after addition of water and extracted with ethyl acetate, washed with water and brine and dried over sodium sulfate. Removal of the solvent under reduced pressure and the residue was purified by silica gel chromatography to give 3-(4-acetoxymethylphenyl)-1-(tert-butoxycarbonyl)-1,2,5,6-tetrahydropyridine (0.71 g, 78%).

Palladium on charcoal was added to the solution of 3-(4-acetoxy-methylphenyl)-1-(tert-butoxycarbonyl)-1,2,5,6-tetrahydropyridine (0.71 g, 2.1 mmol) in ethyl acetate and stirred under hydrogen atmosphere. After filtration with celite and removal of the solvent under reduced pressure, methanol and 1N aqueous sodium hydroxide were added and stirred. Organic solvents were removed under reduced pressure after addition of water and extracted with ethyl acetate, washed with water and brine and dried over sodium sulfate. Removal of the solvent under reduced pressure and the residue was purified by silica gel chromatography (eluent; hexane/ethyl acetate = 3/1) to give 3-(4-hydroxymethylphenyl)-1-(tert-butoxycarbonyl)piperidine (0.39 g, 62%).

Triethylamine (0.47 g, 3.4 mmol) and methanesulfonyl chloride (0.12 ml, 1.6 mmol) were added to an ice-cooled solution of 3-(4-hydroxymethylphenyl)-1-(tert-butoxycarbonyl)piperidine (0.39 g, 1.34 mmol) in dichloromethane and stirred for 7.5 hr. Pyrrolidine (1.0 ml, 12 mmol) was added to the solution and stirred overnight. Organic solvents were removed under reduced pressure after addition of water and extracted with ethyl acetate, washed with water and brine and dried over sodium sulfate. Removal of the solvent under reduced pressure and the residue was purified by silica gel chromatography (eluent; ethyl acetate to ethyl acetate/methanol = 1/1, then methanol only) to give 3-(4-(1-pyrrolidinyl)methyl-phenyl)-1-(tert-butoxycarbonyl)piperidine (0.26 g, 56%).

4N Hydrogen chloride in ethyl acetate was added to 3-(4-(1-pyrrolidinyl)-methylphenyl)-1-(tert-butoxycarbonyl)piperidine (0.26 g, 0.75 mmol) and stirred overnight. After filtration and dryness, triethylamine (0.5 ml, 3.6 mmol), 2-chloro-3-methyl-6-(4-pyridyl)-pyrimidin-4-one (0.14 g, 0.63 mmol) and tetrahydrofuran were added and stirred at 70℃. Organic solvents were removed under reduced pressure after addition of water and extracted with ethyl acetate, washed with water and brine and dried over sodium sulfate. Removal of the solvent under reduced pressure and the residue was dissolved into ethyl acetate. A solution of fumaric acid (0.095 g, 0.82 mmol) in acetone was added and the resulting precipitate was filtered and dried to give the title compound (0.29 g, 76%).

Example 5: Synthesis of (R)-2-(2-(4-chlorophenyl)piperazin-4-yl)-3-methyl-6-(4-pyridyl)-pyrimidin-4- one

To a solution of (S)-2-methyl-CBS-oxazaborolidine (27.6 mL, 1.0 M solution in toluene, 27.6 mmol) was added borane-tetrahydrofuran complex (166 ml, 1.0 M solution in tetrahydrofuran, 166 mmol) at −40 °C. To the resulting solution was added a solution of 4'-chlorophenacyl bromide (32.25 g, 138.1 mmol) in tetrahydrofuran (200 ml) through dropping funnel over 1 h at −40 °C. After stirring for 3 hours below 0 °C, methanol (ca. 50 ml) was added dropwise. After stirring the resulting solution for additional 30 min at room temperature, solvent was removed under reduced pressure. The residue, dissolved in ethyl acetate, was treated with 1 N hydrochloric acid to form white precipitate, which was filtered off. The layers of the filtrate was separated, and the organic layer was washed with hydrochloric acid and brine successively, dried over anhydrous sodium sulfate, filtered, and concentrated under reduced pressure. The residue was used for the next reaction without further purification.

The residue was dissolved in ether (250 ml), and stirred with potassium hydroxide (15.5 g, 276 mmol) in water (250 ml) vigorously. After consumption of the starting material, the layers were separated. The organic layer was washed with brine, dried over anhydrous sodium sulfate, filtered, and concentrated under reduced pressure. The residue was used for the next reaction without further purification.

The residue was heated with benzylamine (37.7 ml, 345 mmol) at 80 °C for 4.5 h. After cooling at room temperature, the resulting white crystals was washed with ether/hexane and collected to afford (S)-2-benzylamino-1-(4-chlorophenyl)-ethanol (23.8 g, 65.8%). The excess benzylamine in the filtrate was distilled off at 120 °C under reduced pressure. From the residue, another (S)-2-benzylamino-1-(4-chlorophenyl)ethanol (2.41 g, 6.7%) was obtained.
^{1}H NMR ($CDCl_3$) ™: 2.68(1H, dd, J=12.3, 8.9Hz), 2.92(1H, dd, J=12.3, 3.7Hz), 3.80(1H, d, J=11.9Hz), 3.86(1H, d, J=11.9Hz), 4.68(1H, dd, J=8.9, 3.7Hz), 7.30(9H, m).

To a suspension of (S)-2-benzylamino-1-(4-chlorophenyl)ethanol (15.76 g, 60.21 mmol) and triethylamine (33.6 ml, 241 mmol) in dichloromethane (300 ml) was added a solution of thionyl chloride (4.83 ml, 66.2 mmol) in dichloromethane (20 ml) at −78 °C over 20 min. The resulting suspension was stirred at −78 °C for 20 min and at 0 °C for additional 20 min. The reaction mixture was partitioned between ether and water, and the organic layer was washed with brine, dried over anhydrous sodium sulfate, filtered, and concentrated under reduced pressure. The residue was purified by silica gel column chromatography (eluent: 10-20% ethyl acetate-hexane) to afford (2RS,5S)-3-benzyl-5-(4-chlorophenyl)-1,2,3-oxathiazolidine 2-oxide (16.2 g 87.4%) as a pale yellow solid.

The resulting product was obtained as a mixture of two diastereomers due to the S-oxide.
major isomer: ^{1}H NMR ($CDCl_3$) δ : 3.31(1H, dd, J=10.5, 9.9Hz), 3.55(1H, dd, J=9.0, 6.3Hz), 3.88(1H, d, J=13.2Hz), 4.37(1H, d, J=13.2Hz), 5.49(1H, dd, J=10.5, 6.3Hz), 7.22-7.43(9H, m).
minor isomer: ^{1}H NMR ($CDCl_3$) δ : 3.21(1H, dd, J=13.5, 4.5Hz), 3.77(1H, dd, J=13.5, 11.4Hz), 4.05(1H, d, J=13.5Hz), 4.38(1H, d, J=13.5Hz), 5.99(1H, dd, J=11.4, 4.5Hz), 7.22-7.43(9H, m).

A solution of (2RS,5S)-3-benzyl-5-(4-chlorophenyl)-1,2,3-oxathiazolidine 2-oxide (16.2 g, 52.6 mmol) and sodium azide (17.11 g, 263.2 mmol) in N,N-dimethylformamide (100 ml) was heated at 70 °C for 24 hours. The reaction mixture was partitioned between ether and water, and the organic layer was washed with water and brine successively, dried over anhydrous sodium sulfate,

and concentrated under reduced pressure. The residue was purified by silica gel column chromatography (eluent: 10-20% ethyl acetate-hexane) to afford (R)-N-benzyl-2-azido-2-(4-chlorophenyl)ethylamine (12.7 g, 83.8%) as a yellow oil. ^{1}H NMR ($CDCl_3$) δ : 2.81(1H, dd, J=12.5, 5.1Hz), 2.89(1H, dd, J=12.5, 8.5Hz), 3.82(2H, s),4.64(1H, dd, J=8.5, 5.1Hz),7.23-7.36(9H, m).

A solution of (R)-N-benzyl-2-azido-2-(4-chlorophenyl)ethylamine (12.7 g, 44.1 mmol) in tetrahydrofuran (176 mL) was treated with triphenylphosphine (13.9 g, 52.9 mmol) at room temperature. After addition of water (20 ml), the reaction mixture was heated at 60 °C for 1 h. The reaction mixture was condensed, and partitioned between ether and 1 N hydrochloric acid. The aqueous layer was treated with 1 N aqueous sodium hydroxide solution until the solution became basic. The resulting solution was extracted with dichlromethane thoroughly. The combined organic layer was washed with water, dried over anhydrous sodium sulfate, filtered, and concentrated under reduced pressure. The residue was used for the next reaction without further purification.

The residue was heated with diethyl oxalate (18 ml, 132 mmol) at 120 °C for 1.5 h. The resulting white precipitate was washed with ether and collected to afford (R)-1-benzyl-5-(4-chlorophenyl)-2,3-dioxopiperazine (11.4 g, 82.2%). ^{1}H NMR ($CDCl_3$) δ : 3.46(1H, dd, J=12.9, 8.1Hz), 3.60(1H, dd, J=12.9, 3.8Hz), 4.48(1H, d, J=14.7Hz), 4.79(1H, d, J=14.7Hz), 4.80(1H, dd, J=8.9, 3.8Hz), 6.83(1H, s), 7.13(4H, m), 7.27(5H, m).

To a suspension of (R)-1-benzyl-5-(4-chlorophenyl)-2,3-dioxopiperazine (11.4 g, 36.3 mmol) in tetrahydrofuran (300 ml) was added borane-tetrahydrofuran complex (181 mL, 1.0 M solution in tetrahydrofuran, 181 mmol) at room temperature. After stirring for 24 hours, the reaction mixture was quenched with methanol (50 ml) at 0 °C, and concentrated under reduced pressure. The residue was treated with 10% aqueous sodium hydroxide solution (300 ml) and heated at 100 °C for 2 hours. After cooling at room temperature, the mixture was extracted with dichloromethane thoroughly. The combined organic layer was dried over anhydrous sodium sulfated, filtered, and concentrated under reduced pressure. The residue was used for the next reaction without further purification.

To a solution of the residue and triethylamine (7.58 ml, 54.4 mmol) in

dichloromethane (150 ml) was added di-tert-butyl dicarbonate (9.49 g, 43.5 mmol) at room temperature. After stirring for 45 min, the resulting mixture was partitioned between dichloromethane and water, dried over anhydrous sodium sulfate, filtered, and concentrated under reduced pressure. The residue was purified by silica gel column chromatography (eluent: 10-20% ethyl acetate-hexane) to afford (R)-1-benzyl-4-(tert-butoxycarbonyl)-3-(4-chlorophenyl)piperazine (11.6 g, 82.8%) as an oil.

^{1}H NMR ($CDCl_3$) δ : 1.43(9H, s), 2.16(1H, dt, J=4.4, 11.7Hz), 2.40(1H, dd, J=4.4, 11.7Hz), 2.78(1H, dd, J=4.4, 11.7Hz), 2.98(1H, dt, J=4.4, 11.7Hz), 3.20(1H, d, J=12.8Hz), 3.42(1H, d, J=12.9Hz), 3.57(1H, d, J=12.9Hz), 3.89(1H, d, J=12.8Hz), 5.17(1H, s), 7.24-7.36(9H, m).

To a solution of (R)-1-benzyl-4-(tert-butoxycarbonyl)-3-(4-chlorophenyl)piperazine (11.6 g, 30.1 mmol) in 1,2-dichloroethane (80 ml) was added 1-chloroethyl chloroformate (4.91 ml, 45.1 mmol) at room temperature. Upon disappearance of the starting material, the reaction mixture was concentrated under reduced pressure. The residue was then dissolved in methanol (100 ml) and refluxed for 30 min. The resulting white precipitate was filtered and washed with methanol to afford (R)-2-(4-chlorophenyl)piperazine dihydrochloride, which was liberated with aqueous sodium hydroxide solution, and extracted with dichloromethane to afford (R)-2-(4-chlorophenyl)piperazine (3.04 g, 51.4%) as white solid.

^{1}H NMR ($CDCl_3$) δ :2.65(1H, dd, J=12.0, 10.5Hz), 2.82-3.04(4H, m), 3.09(1H, d, J=12.6Hz), 3.73(1H, dd, J=10.1, 2.7Hz), 7.29(4H, m)

The filtrate was concentrated under reduced pressure and partitioned between ether and 1 N hydrochloric acid. The aqueous layer was neutralized with 1 N aqueous sodium hydroxide solution, and extracted with dichloromethane thoroughly. The combined organic extracts were dried over anhydrous sodium sulfate, filtered, and concentrated under reduced pressure. The residue was purified after Boc-protection (Boc_2O, Et_3N, CH_2Cl_2) to furnish (R)-1,4-di(tert-butoxycarbonyl)-2-(4-chlorophenyl)piperazine (2.70 g, 22.6%) as pale yellow solid.

^{1}H NMR ($CDCl_3$) δ : 1.43(9H, s), 1.46(9H, s), 2.96(2H, m), 3.32(1H, dd, J=13.8,

4.2Hz), 3.74(1H, m), 3.94(1H, d, J=11.4Hz), 4.40(1H, d, J=13.2Hz),5.23(1H, s),7.25(2H, m)

To a suspension of (R)-2-(4-chlorophenyl)piperazine dihydrochloride (1.09 g, 4.05 mmol) in tetrahydrofuran (24 ml) was added triethylamine (2.82 ml, 20.3 mmol). After stirring for 15 min at room temperature, 2-chloro-3-methyl-6-(4-pyridyl)-3H-pyrimidin-4-one (748 mg, 3.38 mmol) was added portionwise. Upon disappearance of the chloropyrimidone, the reaction mixture was condensed under reduced pressure. The residue was partitioned between saturated aqueous sodium bicarbonate solution and dichloromethane. The organic layer was dried over anhydrous sodium sulfate, filtered, and concentrated under reduced pressure to give pale yellow solid, which was recrystallized from ethanol to afford (R)-2-(2-(4-chlorophenyl)piperazin-4-yl)-3-methyl-6-(4-pyridyl)-pyrimidin-4-one (998 mg, 77.4%) as white crystals. The enantiomer excess was determined by HPLC (>99% ee). The crystals were converted into its dihydrochloride salt.

^{1}H NMR (DMSO-d_6) δ : 3.40(3H, m), 3.46(3H, s), 3.62(1H, dd, J=12.0, 13.2Hz), 3.72(1H, m), 3.92(1H, t, J=15.5Hz), 4.68(1H, t, J=10.1Hz), 7.18(1H, s), 7.58(2H, d, J=8.6Hz), 7.83(2H, d, J=8.6Hz), 8.57(2H, d, J=6.6Hz), 9.01(2H, d, J=6.6Hz), 10.20(1H, d, J=7.8Hz), 10.76(1H, br s)

MS: 382(M+H)

$[\alpha]_D^{24}$ = +62.2 ° (*c* 1.00, H_2O)

Example 6: Synthesis of (S)-2-(2-(4-chlorophenyl)piperazin-4-yl)-3-methyl-6-(4-pyridyl)-pyrimidin-4-one

(S)-isomer was prepared same as above by using (R)-2-methyl-CBS-oxazaborolidine instead of (S)-2-methyl-CBS-oxazaborolidine.

^{1}H NMR (DMSO-d_6) δ : 3.40 (3H, m), 3.45 (3H, s), 3.53-3.96 (3H, m), 4.68 (1H, t, J = 13.5Hz), 7.10 (1H, s), 7.60 (2H, d, J=8.3Hz), 7.76 (2H, d, J=8.3Hz), 8.38 (1H, br s), 8.91 (1H, d, J=4.8Hz), 9.88 (1H, br s), 10.31 (1H, br s)

MS: 382(M+H)

$[\alpha]_D^{24}$ = −63.3 ° (*c* 1.00, H_2O)

The compounds in the following table were prepared in the same manner as

the methods described above. The compound numbers in the following table correspond to those shown in the above-described table of preferred compounds.

Table 3

NO	NMR	Exact-MS
A19	2.51-2.89(4H, m), 3.31-3.34(4H, m), 3.39(3H,s), 3.56(2H, s), 6.80(1H, s), 7.25-7.31(1H, m), 7.31-7.36(4H, m), 7.98(2H, dd, J=1.5, 4.8 Hz), 8.68(2H, dd, J=1.5, 4.5 Hz)(DMSO-d6)	362
A25	3.32-3.34(4H, m), 3.46(3H, s), 3.48-3.51(4H, m), 6.80-6.85(1H, m), 6.84(1H, s), 7.01(2H, d, J=8.0 Hz), 7.23-7.28(2H, m), 8.00(2H, dd, J=1.3, 4.6 Hz), 8.70(2H, dd, J=1.5, 4.5 Hz)(DMSO-d6)	348
A156	3.47(3H,s), 3.51-3.60(4H, m), 3.62-3.71(4H, m), 6.85(1H, s), 7.41-7.49(1H, m), 7.56-7.61(1H, m), 8.02(2H, dd, J=1.5, 4.5 Hz), 8.09(1H, d, J=8.1 Hz), 8.16(1H, d, J=8.1 Hz), 8.70(2H, dd, J=1.5, 4.8 Hz)(DMSO-d6)	405
A289	1.11-1.28(3H, m), 2.98-3.16(1H, m), 3.28-3.41(1H, m), 3.39(3H, s), 3.54-3.80(3H, m), 3.88-3.99(1H, m), 4.08-4.26(4H, m), 4.32-4.45(1H, m), 7.13(1H, s), 7.37-7.53(5H, m), 8.45(2H, d, J=5.8 Hz), 8.96(2H, d, J=6.0 Hz) (DMSO-d6)	434
A361	3.44(3H,s), 3.54-3.95(6H,m), 4.64(1H,brs), 7.11(1H,s), 7.42-7.51(3H,m), 7.74(2H,d,J=6.6Hz), 8.46(2H,d,J=5.7Hz), 8.94(2H,d,J=5.7Hz), 9.98(1H,brs), 10.46(1H, brs) (DMSO-d6).	348
A364	(DMSO-d6): 3.41-3.76(4H, m), 3.48(3H, s), 3.89-4.01(2H, m), 4.96(1H, m), 7.16(1H, s), 7.33-7.58(3H, m), 8.11(1H, dd, J=7.2, 7.2Hz), 8.52(2H, d, J=6.6Hz), 8.97(2H, d, J=6.6Hz), 10.04(1H, m), 10.66(1H, m).	366
A365	3.43(s, 3H), 3.51-3.96(m, 6H), 4.70(m, 1H), 7.00(s, 1H), 7.25(m, 1H), 7.54(m, 2H), 7.60(m, 1H), 8.20(d, J=5.7Hz, 2H), 8.80 (d, J=5.7Hz, 2H)(CDCl3)	366
A366	2.27-2.85(1H, m), 2.94-3.08(3H, m), 3.43(3H,s), 3.59-3.67(2H, m), 3.94-3.97(1H, m), 6.81(1H, s), 7.19(2H, t, J=8.9 Hz), 7.50-7.55(2H, m), 7.96(2H, dd, J=1.6, 4.5 Hz), 8.68(2H, dd, J=1.5, 4.6 Hz)(DMSO-d6)	366
A366 (HCl)	3.35-3.50(2H, m), 3.46(3H, s), 3.58-3.75(2H, m), 3.86-3.97(2H, m), 4.68(1H, t, J=9.3 Hz), 7.15(1H, s), 7.35(2H, t, J=9.0 Hz), 7.82-7.87(2H, m), 8.48(2H, d, J=6.6 Hz), 8.96(2H, d, J=6.3 Hz), 9.55-10.08(1H, m), 10.54-10.70(1H, m)(DMSO-d6)	366

A369	(CDCl3) :2.81(1H,dd,J=10.4,12.5Hz), 3.18-3.40(3H,m), 3.50-3.80(5H,m), 4.50(1H,dd,J=2.5,10.1Hz), 6.67(1H,s), 7.20-7.45(3H,m), 7.74(1H,dd,J=1.9,7.6Hz), 7.81(2H,dd,J=1.4,4.6Hz), 8.70(2H,dd,J=1.4,4.6Hz).	382
A370	(CDCl3) :3.01(1H,dd,J=10.4,12.5Hz), 3.10-3.30(3H,m), 3.50-3.80(5H,m), 4.04(1H,dd,J=2.7,10.8Hz), 6.67(1H,s), 7.20-7.45(4H,m), 7.50(1H,s), 7.80(2H,dd,J=1.5,4.8Hz), 8.71(2H,dd,J=1.5,5.1Hz).	382
A371	3.44(3H,s), 3.44-3.71(7H,m), 3.90(2H,m), 4.66(1H,brs), 7.11(1H,s), 7.55(2H,d,J=8.4Hz), 7.78(2H,d,J=8.4Hz), 8.50(2H,d,J=5.7Hz), 8.95(2H,d,J=5.7Hz), 10.13(1H,brs), 10.60(1H,brs)(DMSO-d6)	382
A376	(DMSO-d6):3.45(3H,s), 3.50-4.20(6H,m), 4.66(1H,br s), 7.12(1H,s), 7.72(4H,s), 8.44(2H,d,J=6.6Hz), 8.94(2H,d,J=6.6Hz), 10.00(1H,br s), 10.05(1H,br s).	426
A391	3.37-3.93(6H, m), 3.48(3H, s), 3.87(3H, s), 4.89-4.95(1H, m), 7.04-7.12(2H, m), 7.17(1H, d, J=8.5 Hz), 7.45-7.51(1H, m), 7.75-7.81(1H, m), 8.29-8.38(2H, m), 8.83-8.91(2H, m), 9.66-9.77(1H, m), 9.91-10.10(1H, m)(DMSO)	378
A392	(DMSO-d6) :3.30-3.58(5H,m), 3.58-3.80(2H,m), 3.81(3H,s), 3.85-4.00(2H,m), 4.58-4.75(1H,m), 7.03(1H,dd,J=1.8,8.1Hz), 7.11(1H, s), 7.26(1H,d,J=7.8Hz), 7.35-7.50(2H,m), 8.41(2H,d,J=5.7Hz), 8.92(2H,d,J=6.0Hz), 9.80-10.00(1H,brd), 10.30-10.60(1H,brd).	378
A393	3.40-3.43(5H,m), 3.51-3.63(2H,m), 3.78(3H,s), 3.93(2H,m),4.58(1H,br), 7.02-7.06(3H,m), 7.64(2H,d,J=8.7Hz), 8.34(2H,d,J=6.3Hz), 8.88(2H,d,J=8.7Hz), 9.76(1H,br), 10.16(1H,br)(DMSO-d6)	378
A396	1.30(3H, t, J=6.9 Hz), 3.38-3.54(1H, m), 3.49(3H, s), 3.65-3.79(1H, m), 3.84-3.98(2H, m), 4.02-4.18(2H, m), 4.84(1H, t, J=10.5 Hz), 7.04-7.16(2H, m), 7.15(1H, s), 7.39-7.45(1H, m), 7.89(1H, d, J=6.6 Hz), 8.49(2H, d, J=6.3 Hz), 8.95(2H, d, J=6.6 Hz), 9.92(1H, d, J=9.3 Hz), 10.51-10.64(1H, m)(DMSO-d6)	392
A406	(DMSO-d6):3.64(2H,m), 3.94(2H,t,J=11.4Hz), 4.02-4.40(5H,m), 4.78(1H,t,J=10.4Hz), 7.06(1H,s), 7.98(2H,d,J=8.3Hz), 8.01(2H,d,J=8.3Hz), 8.23(1H,dd,J=1.2,5.1Hz), 9.02(1H,d,J=5.1Hz), 9.31(1H,d,J=1.2Hz), 10.03(1H,d,J=8.7Hz), 10.57(1H,s).	373

A433	(CDCl3):2.00(4H,m), 3.03(1H,dd,J=10.8,12.0Hz), 3.21(3H,m), 3.29(4H,m), 3.57(3H,s), 3.62(2H,m), 3.90(1H,dd,J=2.7,10.8Hz), 6.57(2H,d,J=8.7Hz), 6.66(1H,s), 7.29(2H,d,J=8.7Hz), 7.80(2H,d,J=4.8Hz), 8.70(2H,d,J=4.8Hz).	417
A439	(CDCl3):3.02(1H,dd,J=10.7,12.4Hz), 3.18(7H,m), 3.55(3H,s), 3.62(2H,m), 3.87(4H,m), 3.96(1H,dd,J=2.5,11.1Hz), 6.66(1H,S), 6.93(2H,d,J=8.7Hz), 7.36(2H,d,J=8.7Hz), 7.79(2H,d,J=4.5Hz), 8.70(2H,d,J=4.5Hz).	434
A442	(CDCl3):2.36(3H,s), 2.59(4H,m), 3.02(1H,t,J=11.6Hz), 3.22(7H,m), 3.55(3H,s), 3.63(2H,m), 3.94(1H,d,J=10.5Hz), 6.66(1H,s), 6.93(2H,d,J=8.7Hz), 7.34(2H,d,J=8.7Hz), 7.80(2H,d,J=4.5Hz), 8.70(2H,d,J=4.5Hz).	446
A463	3.41-3.54(3H, m), 3.48(3H, s), 3.69-3.73(1H, m), 3.78(3H, s), 3.82(3H, s), 3.86-3.93(2H, m), 4.89(1H, t, J=10.5 Hz), 6.97-7.01(1H, m), 7.08(1H, d, J=9.0 Hz), 7.15(1H, s), 7.66(1H, d, J=3.0 Hz), 8.51(2H, d, J=6.3 Hz), 8.96(2H, d, J=6.3 Hz), 9.93(1H, d, J=9.0 Hz), 10.60-10.73(1H, m)(DMSO-d6)	408
A464	(DMSO-d6): 3.45(3H, s), 3.38-3.81(6H, m), 3.88(6H, s), 5.06(1H, m), 6.82(2H, d, J=8.7Hz), 7.04(1H, s), 7.44(1H, t, J=8.4Hz), 8.20(1H, m), 8.30(2H, d, J=6.3Hz), 8.87(2H, d, J=6.3Hz), 10.07(1H, m).	408
A468	3.40-3.50(4H, m), 3.47(3H, s), 3.83-3.94(2H, m), 3.88(3H, s), 4.81-4.91(1H, m), 6.92-6.99(1H, m), 7.07-7.10(1H, m), 7.12(1H, s), 7.79-7.91(1H, m), 8.30-8.40(2H, m), 8.85-8.92(2H, m), 9.70-9.79(1H, m), 10.02-10.23(1H, m)(DMSO)	396
A469/ A470	(DMSO-d6) :3.38-3.60(6H,m), 3.60-3.80(1H,m) 3.80-4.00(5H,m), 4.80-4.97(1H,m), 6.85-7.00(1H,m), 7.09(1H,dd,J=2.4,11.4Hz), 7.13(1H,s), 7.95(1H,dd,J=6.9,8.7Hz), 8.46(2H,d,J=6.6Hz), 8.94(2H,d,J=6.3Hz), 9.80-10.00(1H,brd), 10.35-10.60(1H,brd).	396
A472	3.36-4.00(6H, m), 3.46(3H, s), 3.94(3H, s), 4.94-5.02(1H, m), 6.96-7.01(1H, m), 7.05(1H, d, J=8.6 Hz), 7.14(1H, s), 7.49-7.58(1H, m), 8.44-8.50(2H, m), 8.52-8.64(1H, m), 8.96(2H, d, J=6.6 Hz), 10.49-10.60(1H, m)(DMSO)	396
A480	2.78(1H, dd, J=10.0, 12.1 Hz), 3.18-3.27(3H, m), 3.59(3H, s), 3.64-3.74(2H, m), 3.86(3H, s), 4.37(1H, dd, J=2.4, 10.1 Hz), 6.67(1H, s), 6.89(1H, d, J=2.1 Hz), 6.99(1H, dd, J=1.7, 8.0 Hz), 7.50(1H, d, J=8.2 Hz), 7.82(2H, dd, J=1.5, 4.8 Hz), 8.71(2H, dd, J=1.8, 4.5 Hz)(CDCl3)	412

A490 (2HCl)	3.35-3.94(6H, m), 3.49(3H, s), 4.71-4.80(1H, m), 7.02-7.11(1H, m), 7.18-7.28(2H, m), 7.98-8.10(1H, m), 8.31-8.48(2H, m), 8.87-8.97(2H, m), 9.79-9.92(1H, m), 10.18-10.39(1H, m) (DMSO)	380
A501	(CDCl3) :2.77(1H,dd,J=10.2,12.0Hz), 3.15-3.35(3H,m), 3.50-3.80(5H,m), 3.84(3H,s), 4.39(1H,d,J=7.8Hz), 6.67(1H,s), 6.78(1H,d,J=8.8Hz), 7.39(1H,dd,J=2.4,8.7Hz), 7.71(1H,d,J=2.3Hz), 7.82(2H,d,J=6.0Hz), 8.71(2H,d,J=6.0Hz).	456
A510	(CDCl3): 1.98-2.05(4H, m), 2.85(1H, dd, J=12, 10.5Hz), 3.17-3.24(7H, m), 3.58(3H, s), 3.65-3.72(2H, m), 3.85(3H, s), 4.28(1H, dd, 10.5, 2.7Hz), 6.10(1H, d, J=2.1Hz), 6.18(1H, dd, J=8.7, 2.1Hz), 6.65(1H, s), 7.33(1H, d, J=8.4Hz), 7.83(2H, dd, J=4.5, 1.8Hz), 8.70(2H, dd, J=4.5, 1.5Hz).	447
A511	(CDCl3) :1.90-2.05(4H,m), 2.93(1H,t,J=12.0Hz), 3.15-3.40(7H,m), 3.59(3H,s), 3.65-3.85(5H,m), 4.11(1H,dd,J=2.1,10.2Hz), 6.49(1H,dd,J=3.0,9.0Hz), 6.66(1H,s), 7.83(2H,dd,J=1.8,4.5Hz), 8.70(2H,dd,J=1.5,4.5Hz).	447
A516	(DMSO-d6):3.20-3.70(4H,m), 3.70(1H,m), 3.98(3H,s), 3.99(3H,s), 4.00(1H,m), 4.96(1H,d,J=10.2Hz), 7.01(1H,s), 7.03(2H,m), 8.26(2H,d,J=6.1Hz), 8.53(1H,s), 8.84(2H,d,J=6.1Hz), 10.25(1H,d,J=10.7Hz)	414
A525	(DMSO-d6):3.30-3.50(2H,m), 3.48(3H,s), 3.55-3.78(2H,m), 3.78(3H,s), 3.96(2H,d,J=13.5Hz), 4.69(1H,t,J=10.4Hz), 7.06(1H,t,J=7.4Hz), 7.12(1H,s), 7.14(1H,d,J=7.4Hz), 7.31(1H,d,J=7.4Hz), 7.39(1H,t,J=7.4Hz), 7.59(2H,d,J=8.3Hz), 7.77(2H,d,J=8.3Hz), 8.43(2H,d,J=6.5Hz), 8.93(2H,d,J=6.5Hz), 9.89(1H,d,J=8.7Hz), 10.34(1H,s).	454
A527	(DMSO-d6):3.40-4.10(9H,m), 3.81(3H,s), 4.69(1H,m), 7.05(1H,s), 7.05(2H,d,J=9.0Hz), 7.67(2H,d,J=9.0Hz), 7.75(4H,s), 8.27(2H,d,J=5.7Hz), 8.85(2H,d,J=5.7Hz), 9.75(1H,s), 10.04(1H,s).	454
A536	(DMSO-d6):3.40-3.60(2H,m), 3.47(3H,s), 3.68(2H,m), 3.95(2H,m), 4.71(1H,t,J=9.9Hz), 7.16(1H,s), 7.33(2H,t,J=8.85Hz), 7.78(6H,m), 8.50(2H,d,J=6.3Hz), 8.97(2H,d,J=6.3Hz), 10.02(1H,s), 10.50(1H,s).	443
A543	3.52(s, 3H), 3.57-4.10(m, 6H), 5.57(m, 1H), 7.02(s, 1H), 7.53-7.70(m, 2H), 8.06(d, J=7.2Hz, 2H), 8.21-8.34(m, 3H), 8.82(d, J=6.3Hz, 2H), 9.88-9.92(m, 1H), 10.58-10.61(m, 1H)(DMSO d6)	398

A544	3.41-3.59(2H, m), 3.49(3H, s), 3.68-3.76(2H, m), 3.97-4.02(2H, m), 4.78-4.89(1H, m), 7.15(1H, s), 7.58-7.63(2H, m), 7.89-8.07(4H, m), 8.30(1H, s), 8.49(2H, d, J=6.3 Hz), 8.95(2H, d, J=6.3 Hz), 10.17(1H, d, J=8.4 Hz), 10.57-10.70(1H, m)(DMSO-d6)	398
A619	(CDCl3): 2.98(1H, dd, J=12.6, 10.8Hz), 3.17-3.28(5H, m), 3.58(3H, s), 3.62(1H, m), 3.79(1H, m), 4.26(1H, dd, 10.5, 2.7Hz), 4.62(2H, m), 6.66(1H, s), 6.88(1H, t, J=7.5Hz), 7.16(1H, d, J=7.2Hz), 7.27(1H, m), 7.84(2H, d, J=6.0), 8.70(2H, dd, J=4.8, 1.2Hz).	390
A626	3.33-3.41(4H, m), 3.42(3H, s), 3.47-3.87(4H, m), 6.84(1H, s), 7.44-7.49(5H, m), 7.99(2H, dd, J=1.5, 4.5 Hz), 8.69(2H, dd, J=1.4, 4.8 Hz)(DMSO-d6)	376
A649	3.44(3H, s),3.37-4.04(9H, m),4.67(1H, d,J=9.6Hz),7.10(1H, s),7.45-7.55(3H, m),7.83(2H, d,J=6.0Hz),8.47(2H, d,J=6.6Hz),8.95(2H, d,J=6.6Hz),12.15(1H, brs)(DMSO-d6)	362
A756	(CDCl3) :2.50-2.61(1H,m), 2.80-2.95(1H,m), 3.05-3.20(1H,m), 3.25-3.40(1H,m), 3.50-3.60(1H,m), 3.57(3H,s), 3.65-3.75(1H,m), 3.75-3.80(1H,m), 3.85(3H,s), 6.60-6.80(3H,m), 7.47(1H,dd,J=7.2,8.4Hz), 7.82(2H,dd,J=1.5,4.5Hz), 8.71(2H,dd,J=1.5,4.5Hz).	410
A757/ A758	(DMSO-d6) :2.54(3H,s), 3.40-3.79(3H,m), 3.46(3H,s), 3.80-4.10(6H,m), 4.83-5.10(1H,m), 6.90-7.05(1H,m), 7.08(1H,s), 7.13(1H,dd,J=2.7,11.4Hz), 8.00-8.25(1H,brd), 8.37(2H,d,J=6.3Hz), 8.91(2H,d,J=6.6Hz), 11.80-12.20(1H,brd).	410
A831	2.55(s, 3H), 3.51(s, 3H), 3.67-3.82(m, 4H), 4.04-4.08(m, 2H), 5.64(m, 1H), 7.05(s, 1H), 7.59-7.72(m, 3H), 8.06-8.11(m, 2H), 8.35(d, J=6.6Hz, 2H), 8.41(d, J=7.8Hz, 1H), 8.49 (d, J=6.9Hz, 1H), 8.84(d, J=6.6Hz, 2H)(DMSO d6)	412
A1016	(DMSO-d6) :3.15-3.35(1H,m), 3.38-3.60(4H,m), 3.75-4.15(8H,m), 4.18-4.25(1H,m), 4.90-5.20(1H,m), 7.00-7.20(3H,m), 7.30-7.55(6H,m), 8.50-8.70(3H,m), 9.00(2H,d,J=6.3Hz).	486
A1276	(CDCl3) :1.80-2.42(3H, m), 3.08-3.39(4H, m), 3.40-3.62(1H, m), 3.65-4.23(6.8H,m), 4.63-4.90(0.6H, m), 5.40-5.62(0.7H, m), 5.80-6.00(0.1H, m), 6.52-6.78(3H, m), 6.90-7.2(1H, m), 7.68-7.90(2H,m), 8.64-8.80(2H,m)	438

A1649	1.48(3H, s), 1.57(3H, s), 3.50(3H, s), 3.51-3.66(2H, m), 3.72-3.76(1H, m), 3.90(3H, s), 3.99(1H, d, J=13.4 Hz), 5.15-5.23(1H, m), 7.08-7.12(2H, m), 7.18(1H, d, J=8.6 Hz), 7.46-7.49(1H, m), 8.04-8.11(1H, m), 8.37-8.45(2H, m), 8.89-8.97(2H, m), 9.49-9.60(1H, m), 9.95-10.11(1H, m)(DMSO)	406
B13	1.16-1.28(1H, m), 1.50-1.64(1H, m), 1.70-1.82(2H, m), 1.90-2.01(1H, m), 2.58(2H, d, J=7.3 Hz), 2.64-2.72(1H, m), 2.89-2.97(1H, m), 3.28(3H, s), 3.57-3.67(2H, m), 6.93(1H, s), 7.20-7.35(5H, m), 8.26(2H, d, J=5.7 Hz), 8.87(2H, d, J=5.9 Hz)(DMSO-d6)	361
B16	1.75-2.16(4H, m), 2.96-3.08(3H, m, 3.55(3H, s), 3.69-3.79(2H, m), 6.66(1H, s), 7.26-7.40(5H, m), 7.81(2H, d, J = 6.0 Hz), 8.70(2H, d, J = 6.0 Hz) (CDCl3)	347
B17	1.76-1.99(5H, m), 2.97-3.10(2H, m), 3.75(1H, d, J=12.4 Hz), 6.81(1H, s), 7.18-7.24(2H, m), 7.28-7.35(1H, m), 7.47(1H, t, J=7.1 Hz), 7.98(2H, d, J=5.8 Hz), 8.68(2H, d, J=5.8 Hz)(DMSO-d6)	365
B19	1.86-2.14(4H, m), 2.94-3.03(3H, m), 3.55(3H, s), 3.68-3.75(2H, m), 6.66(1H, s), 7.05(2H, m), 7.23(2H, m), 7.80(2H, d, J = 6.3 Hz), 8.70(2H, d, J = 6.3 Hz)(CDCl3)	365
B33	1.75-2.08(4H, m), 2.80(1H, m), 3.03(1H, m), 3.42(3H, s), 3.77(2H, m), 3.85(3H, s), 6.65(1H, s), 6.89-7.00(2H, m), 7.22-7.28(2H, m), 7.82(2H, d, J = 6.0 Hz), 8.70(2H, d, J = 6.0 Hz) (CDCl3)	377
B35	1.73-1.83(4H, m), 2.90-3.02(3H, m), 3.42(3H, s), 3.67-3.81(2H, m), 3.74(3H, s), 6.80(1H, s), 6.91(2H, d, J=8.7 Hz), 7.27(2H, d, J=8.5 Hz), 7.97(2H, d, J=5.9 Hz), 8.69(2H, d, J=5.7 Hz)(DMSO-d6)	377
B43	1.69-1.90(7H, m), 1.94-2.00(1H, m), 2.59-2.68(4H, m), 2.92-3.02(3H, m), 3.43(3H, s), 3.69-3.80(4H, m), 6.59(3H, s), 6.79(1H, s), 7.29-7.36(4H, m), 7.96(2H, d, J=5.9 Hz), 8.68(2H, d, J=5.1 Hz)(DMSO-d6)	430
B46	(CDCl3): 1.95-2.09(3H, m), 2.39(1H, m), 3.15(1H, m), 3.45(1H, dd, J=12.9, 10.8Hz), 3.57(3H, s), 3.61-3.72(2H, m), 4.08(1H, m), 6.67(1H, s), 7.32(1H, m), 7.58-7.60(2H, m), 7.74(1H, d, J=7.8Hz), 7.80(2H, dd, J=4.5, 1.5Hz), 8.69(2H, dd, J=4.5, 1.5Hz).	388
B47	(CDCl3): 1.90-2.06(3H, m), 2.36(1H, m), 3.14(1H, m), 3.42(1H, m), 3.57(3H, s), 3.61-3.71(2H, m), 4.06(1H, m), 6.68(1H, s), 7.09(1H, m), 7.28(1H, m), 7.68(1H, dd, J=8.8, 5.1Hz), 7.79(2H, d, J=4.7Hz), 8.69(2H, d, J=5.9Hz).	406

B48	1.90-2.10(3H, m), 2.32-2.44(1H, m), 3.11-3.20(1H, m), 3.45(1H, dd, J=10.5, 12.6 Hz), 3.57(3H, s), 3.61-3.72(2H, m), 4.08(1H, d, J=11.1 Hz), 6.67(1H, s), 7.30-7.35(1H, m), 7.56-7.62(2H, m), 7.74(1H, d, J=13.8 Hz), 7.80(2H, dd, J=1.8, 4.5 Hz), 8.70(2H, dd, J=1.8, 4.8 Hz)(CDCl3)	388
B49	1.91-2.09(3H, m), 2.37-2.42(1H, m), 3.12-3.19(1H, m), 3.45(1H, dd, J=10.8, 12.9 Hz), 3.57(3H, s), 3.60-3.72(2H, m), 4.08(1H, d, J=11.1 Hz), 6.67(1H, s), 7.30-7.35(1H, m), 7.54-7.62(2H, m), 7.75(1H, d, J=8.1 Hz), 7.80(2H, dd, J=1.5, 4.5 Hz), 8.70(2H, dd, J=1.8, 4.5 Hz)(CDCl3)	388
B50	1.59-1.67(1H, m), 1.72-1.81(1H, m), 2.08(1H, dt, J=3.4, 12.7 Hz), 2.23-2.40(1H, m), 3.06-3.14(1H, m), 3.41-3.54(2H, m), 3.42(3H, s), 3.93(1H, d, J=14.0 Hz), 7.02(1H, s), 7.24-7.29(1H, m), 7.34-7.39(2H, m), 7.56-7.59(2H, m), 8.55(2H, d, J=6.6 Hz), 8.98(2H, d, J=6.5 Hz)(DMSO-d6)	363
B80	2.21-2.36(4H, m), 3.19-3.31(2H, m), 3.46(3H, s), 3.88(2H, d, J=13.2 Hz), 6.86(1H, s), 7.38-7.42(1H, m), 7.46-7.51(2H, m), 7.58-7.64(2H, m), 8.01(2H, d, J=5.1 Hz), 8.70(2H, d, J=5.1 Hz)(DMSO-d6)	372
B122	1.44(2H, m), 1.75-1.83(3H, m), 2.63(2H, d, J = 6.9 Hz), 2.90(2H, m), 3.51(3H, s), 3.64(2H, m), 6.65(1H, s), 7.17-7.34(5H, m), 7.80(2H, d, J = 6.3 Hz), 8.70(2H, d, J = 6.3 Hz) (CDCl3)	361
B123	1.44-2.16(5H, m), 2.86-2.97(2H, m), 3.49(3H, s), 3.62(1H, m), 3.72(1H, m), 4.48(1H, d, J = 7.2 Hz), 6.64(1H, s), 7.07(2H, m), 7.32(2H, m), 7.79(2H, d, J = 6.3 Hz), 8.69(2H, d, J = 6.3 Hz) (CDCl3)	395
B124	1.38-1.60(3H, m), 1.78(1H, m), 2.16(1H, m), 2.79-2.94(2H, m), 3.20(3H, s), 3.49(3H, s), 3.59(1H, m), 3.69(1H, m), 3.88(1H, d, J = 7.5 Hz, 1H), 6.64(1H, s), 7.08(2H, m), 7.25(2H, m), 7.79(2H, d, J = 6.0 Hz), 8.70(2H, d, J = 6.0 Hz) (CDCl3)	409
B127	1.87-2.06(4H, m), 2.79(1H, m), 3.10(2H, m), 3.57(3H, s), 3.78(2H, m), 6.68(1H, s), 7.23-7.29(3H, m), 7.34(2H, m), 7.84(2H, d, J = 6.0 Hz), 8.72(2H, d, J = 6.0 Hz) (CDCl3)	347
B130	1.81-2.03(4H, m), 2.78(1H, m), 3.09(2H, m), 3.57(3H, s), 3.79(2H, m), 6.69(1H, s), 7.03(2H, m), 7.23(2H, m), 7.84(2H, d, J = 5.4 Hz), 8.72(2H, br s) (CDCl3)	365
B134	1.78-1.95(4H, m), 2.80-2.91(1H, m), 2.96-3.09(2H, m), 3.45(3H, s), 3.81(2H, d, J=13.1 Hz), 6.80(1H, s), 7.33(1H, dd, J=2.0, 8.3 Hz), 7.56-7.60(2H, m), 7.99(2H, dd, J=1.6, 4.5 Hz), 8.69(2H, dd, J=1.5, 4.5 Hz)(DMSO-d6)	415

B145	1.82-2.02(4H, m), 3.09-3.27(3H, m), 3.57(3H, s), 3.79(2H, m), 3.86(3H, s), 6.67(1H, s), 6.89-6.99(2H, m), 7.21-7.26(2H, m), 7.84(2H, d, J = 6.0 Hz), 8.72(2H, d, J = 6.0 Hz) (CDCl3)	377
B157	1.85-2.07(2H,m), 2.17-2.30(2H,m), 2.91-3.10(1H,m), 3.10-3.24(2H,m), 3.57(3H,s), 3.71-3.88(2H,m), 6.69(1H,s), 6.99-7.06(1H,m), 7.21(1H,dd,J=2.1,8.7Hz), 7.45(1H,s), 7.49-7.65(1H,m), 7.83(2H,dd,J=1.8,4.5Hz), 8.72(2H,dd,J=1.2,4.8Hz)(CDCl3)	405
B158	2.22-2.32(4H, m), 3.22(2H, m), 3.37(1H, m), 3.58(3H, s), 3.82(2H, m, 6.71(1H, s), 7.10(1H, m), 7.29(1H, m), 7.67(1H, m), 7.83(2H, d, J = 6.3 Hz), 8.72(2H, d, J = 6.3 Hz) (CDCl3)	406
B159	2.19-2.26(4H, m), 3.21(2H, m), 3.35(1H, m), 3.59(3H, s), 3.82(2H, m), 6.70(1H, s), 6.95(1H, dt, J = 9.0, 2.1 Hz), 7.13(1H, dd, J = 9.0, 2.1 Hz), 7.71(1H, m), 7.85(2H, d, J = 6.3 Hz), 8.72(2H, d, J = 6.3 Hz) (CDCl3)	405
B160	2.13-2.34(2H,m), 2.34-2.43(2H,m), 3.10-3.38(3H,m), 3.57(3H,s), 3.68-3.83(2H,m), 6.69(1H,s), 7.29-7.40(2H,m), 7.46-7.59(1H,m), 7.64-7.78(1H,m), 7.80-7.78(2H,m), 8.72(2H,d,J=6.0Hz)(CDCl3)	388
B161	2.19(2H, m), 2.38(2H, m), 3.18(2H, m), 3.39(1H, m), 3.58(3H, s), 3.80(2H, m), 6.70(1H, s), 7.39(1H, m), 7.50(1H, m), 7.83(2H, d, J = 6.0 Hz), 7.89(1H, d, J = 7.2 Hz), 8.01(1H, d, J = 7.8 Hz), 8.73(2H, d, J = 6.0 Hz) (CDCl3)	404
B162	1.96(2H, m), 2.88(2H, m), 3.15(2H, m), 3.60(3H, s), 3.85(2H, m), 4.63(1H, m), 6.73(1H, s), 7.13-7.23(3H, m), 7.46(1H, d, J = 7.5 Hz), 7.84(2H, d, J = 6.3 Hz), 8.73(2H, d, J = 6.3 Hz)(CDCl3)	420
B164	1.64(2H, m), 2.23(2H, m), 3.13(2H, m), 3.50(1H, m), 3.53(3H, s), 3.68(2H, m), 6.58(2H, m), 6.68(1H, s), 6.91(2H, m), 7.81(2H, d, J = 6.0 Hz), 8.72(2H, d, J = 6.0 Hz) (CDCl3)	380
B165	1.91-1.99(4H, m), 2.84(3H, s), 3.07(2H, m), 3.55(3H, s), 3.77(2H, m), 3.84(1H, m), 6.69(1H, s), 6.75-6.87(3H, m), 7.27(2H, m), 7.82(2H, d, J = 6.3 Hz), 8.72(2H, d, J = 6.3 Hz) (CDCl3)	376
B168	1.52(2H, m), 1.79(3H, s), 1.96(2H, m), 3.09(2H, m), 3.42(3H, s), 3.64(2H, m), 4.86(1H, m), 6.63(1H, s), 7.09-7.19(4H, m), 7.74(2H, d, J = 6.0 Hz), 8.70(2H, d, J = 6.0 Hz) (CDCl3)	422
B169	1.86(1H, br s), 1.95(2H, m), 2.30(2H, m), 3.47-3.63(7H, m), 6.68(1H, s), 7.30-7.44(3H, m), 7.54(2H, d, J = 7.5 Hz), 7.84(2H, d, J = 6.0 Hz), 8.71(2H, d, J = 6.0 Hz) (CDCl3)	363

B201	2.20-2.31(4H, m), 3.20-3.29(2H, m), 3.46(3H, s), 3.87(2H, d, J=13.8 Hz), 6.86(1H, s), 7.29-7.35(2H, m), 7.64-7.69(2H, m), 8.01(2H, dd, J=1.5, 4.5 Hz), 8.70(2H, dd, J=1.5, 4.5 Hz)(DMSO-d6)	390
B227	2.16-2.25(2H, m), 2.48-2.58(2H, m), 3.14-3.21(2H, m), 3.40(3H, s), 3.41-3.50(2H, m), 6.79(1H, s), 7.28-7.33(1H, m), 7.39-7.46(4H, m), 7.97(2H, dd, J=1.5, 4.5 Hz), 8.68(2H, dd, J=1.5, 4.5 Hz)(DMSO-d6)	389

Test Example: Inhibitory activity of the medicament of the present invention against P-GS1 phosphorylation by bovine cerebral TPK1

A mixture containing 100 mM MES-sodium hydroxide (pH 6.5), 1 mM magnesium acetate, 0.5 mM EGTA, 5 mM β-mercaptoethanol, 0.02% Tween 20, 10% glycerol, 12 μg/ml P-GS1, 41.7 μM [γ-^{32}P] ATP (68 kBq/ml), bovine cerebral TPK1 and a compound shown in Table (a final mixture contained 1.7% DMSO deriving from a solution of a test compound prepared in the presence of 10% DMSO) was used as a reaction system. The phosphorylation was started by adding ATP, and the reaction was conducted at 25°C for 2 hours, and then stopped by adding 21% perchloric acid on ice cooling. The reaction mixture was centrifuged at 12,000 rpm for 5 minutes and adsorbed on P81 paper (Whatmann), and then the paper was washed four times with 75 mM phosphoric acid, three times with water and once with acetone. The paper was dried, and the residual radioactivity was measured using a liquid scintillation counter. The results are shown in the table below. The test compound markedly inhibited the P-GS1 phosphorylation by TPK1. The results strongly suggest that the medicaments of the present invention inhibit the TPK1 activity, thereby suppress the Aβ neurotoxicity and the PHF formation, and that the medicaments of the present invention are effective for preventive and/or therapeutic treatment of Alzheimer disease and the above-mentioned diseases.

Table 4

Compound No.	IC_{50}
A19	0.319 μM
A25	0.065 μM
A156	0.140 μM
A289	2.01 μM
A361	0.018 μM
A364	11nM
A365	0.022 μM
A366	18nM
A366 (HCl)	7.7nM
A369	9.6 nM
A370	5.4 nM
A371	0.0066 μM
A376	22nM
A391	1.8nM
A392	11nM
A393	0.0047 μM
A396	25nM
A406	15 nM
A433	21 nM
A439	13 nM
A442	2.0 nM
A463	2.2nM
A464	4.7nM
A468	0.9nM
A469, A470	54nM
A469, A470	0.40nM
A472	5.5nM
A480	0.31 nM
A490(2HCl)	24nM
A501	1.5 nM
A510	2.5nM
A511	3.7 nM
A516	2.0nM
A525	32 nM
A527	5.0 nM
A536	1.6nM
A543	0.0012 μM
A544	4.6nM

A619	1.6 nM
A626	0.093 μM
A649	0.855 μM
A756	56nM
A757, A758	1181nM
A757, A758	34nM
A831	0.015 μM
A1016	1170 nM
A1276	1674 nM
A1649	7.7nM
B13	0.013 μM
B16	0.019 μM
B17	0.0053 μM
B19	0.024 μM
B33	0.0027 μM
B35	0.0075 μM
B43	0.0013 μM
B46	0.0018 μM
B47	0.0088 μM
B48	0.0098 μM
B49	0.00078 μM
B50	0.351 μM
B80	0.23 μM
B122	0.052 μM
B123	0.087 μM
B124	0.147 μM
B127	0.026 μM
B130	0.024 μM
B134	0.11 μM
B145	0.033 μM
B157	0.020 μM
B158	0.011 μM
B159	0.0054 μM
B160	0.0099 μM
B161	0.0056 μM
B162	0.015 μM
B164	0.028 μM
B165	0.042 μM
B168	0.041 μM
B169	0.023 μM

B201	0.27 μM
B227	0.062 μM

Formulation Example

(1) Tablets

The ingredients below were mixed by an ordinary method and compressed by using a conventional apparatus.

Compound of Example 1	30 mg
Crystalline cellulose	60 mg
Corn starch	100 mg
Lactose	200 mg
Magnesium stearate	4 mg

(2) Soft capsules

The ingredients below were mixed by an ordinary method and filled in soft capsules.

Compound of Example 1	30 mg
Olive oil	300 mg
Lecithin	20 mg

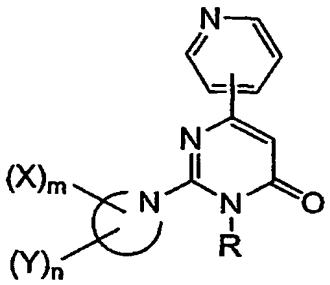
Effect of Invention

The compounds of the present invention have TPK1 inhibitory activity and are useful as an active ingredient of a medicament for preventive and/or therapeutic treatment of diseases caused by abnormal advance of TPK1 such as neurodegenerative diseases (e.g. Alzheimer disease) and the above-mentioned diseases.

【書類名】外国語要約書

ABSTRACT

A pyrimidone derivative having tau protein kinase 1 inhibitory activity which is represented by formula (I) or a salt thereof, or a solvate thereof or a hydrate thereof:



(I)

wherein R represents a C_1-C_{12} alkyl group; the ring of:

represents piperazine ring or piperidine ring; each X independently represents a C_1-C_8 alkyl group, an optionally partially hydrogenated C_6-C_{10} aryl ring, an indan ring or the like; m represents an integer of 1 to 3; each Y independently represents a halogen atom, a hydroxy group, a cyano group, a C_1-C_6 alkyl group or the like; n represents an integer of 0 to 8; when X and Y or two Y groups are attached on the same carbon atom, they may combine to each other to form a C_2-C_6 alkylene group.

特願２００３－１２６０２１

出　願　人　履　歴　情　報

識別番号　　[０００００６７２５]

１．変更年月日　　２００１年１０月　１日
[変更理由]　　住所変更
住　所　　大阪府大阪市中央区平野町２丁目６番９号
氏　名　　三菱ウェルファーマ株式会社

特願２００３－１２６０２１

出　願　人　履　歴　情　報

識別番号　［３９９０５０９０９］

１．変更年月日　１９９９年　８月１９日
［変更理由］　新規登録
住　所　フランス７５０１３パリ、アヴニュ・ドゥ・フランス　１７４番
氏　名　サノフィーサンテラボ